

JPRS-EEI-85-024

27 February 1985

# East Europe Report

ECONOMIC AND INDUSTRIAL AFFAIRS

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## EAST EUROPE REPORT

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INTERNATIONAL AFFAIRS

DEVELOPMENTS OF CSSR TRADE WITH CEMA COUNTRIES VIEWED

Prague SVET HOSPODARSTVI in Czech No 150, 1983 p 3

[Article by Eng Milos Prochazka: "Development of CSSR Foreign Trade With Socialist Countries"]

[Text] Extensive changes have occurred over the past several years in the form, contents and organization of foreign trade relations among CEMA member countries. There occurred a gradual transition of these member countries from the conventional form of commodity exchange, based on imports and exports, to the coordination of plans for the national economy for 5-year periods, and the negotiation of long-term trade agreements; they gave rise to a promoted wide acceptance of contractual trade and political instruments, created bilateral and multilateral legal, organizational, trade policy, and commercial conditions for smooth progress of commodity exchange. The 1970's in particular represented a historical milestone in the economic cooperation of CEMA countries based on promulgation of the Comprehensive Program for Continued Promotion and Improvement of Cooperation and Development of Socialist Economic Integration. This program was supplemented in the late 1970's by five long-term goal-oriented programs till 1990. The comprehensive program clearly documents the strength and the tremendous potential of the socialist system and the advantages offered by socialist economic relations based on the principles of socialist internationalism.

The total turnover of CSSR foreign trade increased in the period 1949-1983 more than 19-fold, but the turnover with CEMA member countries increased more than 29-fold. The dynamic trend of increases came to the fore in the 1970's and 1980's and, in particular, over the past 3 years the development of trade turnover has been achieved exclusively in relation to CEMA countries, while a decrease has occurred in relation to nonsocialist countries. Faster rates of growth were achieved in CSSR imports, which increased almost 20-fold (with CEMA almost 32-fold), while CSSR exports increased almost 19-fold (with CEMA almost 27-fold).

The territorial orientation of Czechoslovak foreign trade underwent a change in keeping with the growth of commodities exchange with CEMA. The share of CEMA countries in CSSR foreign trade in 1949 amounted to 46.5 percent and in 1983 it increased to 83.0 percent. The share of CEMA member countries increased even faster in CSSR imports, particularly in relation to the Soviet Union. The increased share of CEMA countries in CSSR foreign trade turnover is the logical consequence of the protection of the CSSR economy against discrimination, embargo and subversion on the part of developed capitalist countries. The share of the USSR in CSSR foreign commodity exchange increased from 24 percent in 1949 to 43.2 percent in 1983. This dynamic growth, based on CSSR exportation of finished products and importation of fuels, raw materials and energy, underscores the irreplaceable significance of the USSR for the CSSR economy. The high share of trade with countries using a planned economy creates under the given geographical, natural and socioeconomic conditions a basis conducive to the goal-oriented development of CSSR economy. Increases in mutual deliveries of goods with CEMA countries also contributed in a decisive measure to the fact that the total turnover of CSSR foreign trade developed faster than other indicators the CSSR's economic growth.

The CSSR orientation of foreign trade toward the CEMA countries resulted in dynamic growth of its turnover. This dynamism is documented by the following table [indices in percent, 1949=100]:

<u>Item</u>	<u>1950</u>	<u>1960</u>	<u>1970</u>	<u>1980</u>	<u>1983</u>
Total turnover	93.1	250.0	504.7	1506.9	1921.9
of which: CEMA	109.1	339.1	683.6	2087.4	2924.8
Nonsocialist countries	80.1	142.0	306.4	914.1	905.7
Total exports	96.6	243.9	493.4	1444.2	1858.8
of which: CEMA	112.0	327.9	659.9	1944.2	2682.4
Nonsocialist countries	84.7	143.4	303.1	917.6	996.8
Total imports	89.1	252.9	517.4	1577.3	1992.8
of which: CEMA	105.7	351.8	710.5	2250.0	3199.9
Nonsocialist countries	75.0	140.5	310.1	910.2	803.8

(Data computed on the basis of stable prices)

In connection with the change in the territorial structure of CSSR foreign trade turnover there occurred a gradual change in the structure of goods. The composition of the structure of goods is very important in assessing the relative advantages and disadvantages of commodities exchange. The exportation of final products is of key important to the CSSR national economy, primarily of machinery and systems, and the importation of needed fuels, raw materials, semifinished products and materials.

The development of the structure of goods in the exchange of commodities with CEMA countries documents that despite a lower share of machinery and systems during 1981-1983 (the decrease in this share became reflected in CSSR imports), the turnover in this group of goods increased at the highest rate, reaching in 1983 a more than 74-fold increase in comparison with 1949, primarily in CSSR imports. Machinery products attained in 1970 a dominant position in CSSR exports and have retained it through the subsequent years to this day.



The second group which increased in both value and share includes raw materials, semifinished products and materials, the turnover of which increased in the same period more than 27-fold, showing a more than 35-fold increase particularly in imports. The share of this group remains at a high level (in 1983 it amounted to 57 percent), showing a gradual decrease in CSSR exports. The volume of consumer goods deliveries increased almost 14-fold, mainly in CSSR imports, its share in CSSR exports having decreased and becoming stabilized over the past several years at a level of 15-16 percent; in CSSR exports it increased and became stabilized over the past several years at an approximately 5 percent level. The lowest range of growth was posted by the group of agricultural and food industry raw materials and products (fourfold), and its share in CSSR foreign trade continues to decrease. The key source for the development of commodities exchange between the CSSR and CEMA countries are finished products, particularly machining products.

The development of the structure of goods in trade with nonsocialist countries was different. While here, too, the greatest increase in the period 1949-1983 occurred in the turnover of machinery and systems--which increased almost 18-fold, 29-fold in CSSR imports--the leading group of goods from the aspect of value and share in constituted by deliveries of raw materials, semifinished products and materials, which increased more than 8-fold, and primarily in CSSR exports more than 12-fold. That is why their share in CSSR exports to nonsocialist countries rose from 35.2 percent to 43 percent and, conversely, in CSSR imports decreased from 70.8 percent to 52.5 percent. As regards the ration between exports and imports of machined goods, it was balanced in the 1970's and in 1980. An important part of the structure of goods in CSSR exports to nonsocialist countries are deliveries of industrial consumer goods, which showed an almost eightfold increase in value while constantly decreasing in share. In CSSR imports it is agricultural and food industry raw materials and products which increased more than ninefold, and their share in CSSR imports decreased for the entire period by only 2.5 points.

The CSSR exports to CEMA member countries more than 75 percent of all finished products and only 46.5 percent of raw and processed material items, importing from these countries 72.5 percent of finished products, but also 75.4 percent of raw materials, semifinished products and materials. (In relation to nonsocialist countries the share of CSSR exports of finished products amount to only 20.9 percent, but in raw material items to 45.4 percent, while imports of this group of goods amount to only 21.3 percent.) The major part of CSSR final production finds ready sales on the markets of CEMA countries, from which the CSSR also covers the major part of its needs for raw materials, fuels and processed materials. The high share of imports of final products from CEMA countries is affected by reflecting deliveries of agricultural produce and foodstuffs for the domestic market.

All, or almost all CSSR exports directed to CEMA countries include mining and metallurgical systems, refrigeration and airconditioning systems, machinery for the production of ready-made clothing, shoemaking machinery, communication systems, electric and diesel locomotives, electric and electronics measuring instruments, agricultural machinery, freight cars, train units, buses, streetcars, trolleybuses, special-purpose automobiles, ships and

their accessories, perfumes, cosmetics and washing machines for households, a substantial part of CSSR exports being constituted by electrotechnical equipment, cables and conductors, hoisting machinery, systems for the food and chemical industries, excavators, construction and roadbuilding machinery, pumping and compressor systems, industrial fittings, medical instruments and tools, trucks, beer, clothing and underwear, metal and plastic fancy goods, footwear, and furniture.

CEMA member countries cover CSSR import needs in their entire, or almost entire, extent in equipment for nuclear power plants, fork-lift trucks, graders, bulldozers, computer technology, agricultural machinery, freight and passenger rolling stock, trucks, seagoing freighters, passenger automobiles, fresh and processed vegetables and tropical fruit, cigarettes, sewing machines for households, television sets, and a substantial part of needs for cables and conductors, loading machines, excavators, communal and firefighting systems, communication systems, tractors, construction operations, meat and meat products, cotton fabrics, furniture, perfumes and cosmetic products, radio receivers, and various electronic consumer goods.

In the group of raw materials, semifinished products, and processed materials the CSSR exports to fraternal countries a substantial part of its deliveries of bituminous coke, iron castings, angle iron, beams, pipes, welding electrodes, synthetic resins, auxiliary equipment for the textile, leather-working and rubber industries, tar- and oil-based dyes, preparations for agriculture and heat-resistant materials. The CSSR covers its needs for the importation of raw materials and semifinished products in their entirety or almost entirely by importing from CEMA countries bituminous coal, lignite, briquettes, crude oil, natural gas, electric power, sulfur, rock salt, cast iron, rolled stock made of ferrous metals, calcinated soda, potash, nitrogen and mixed fertilizers, lumber, wheat, corn, and raw sugar. Member countries supply the CSSR with other raw and processed materials, such as ores, asbestos, ferrous alloys, copper including copper wire, lead, aluminum, rolled copper stock, cellulose, and synthetic leather.

On the basis of the agreed-upon plan for multilateral integration measures--which was first compiled for the years 1976-1980 and included joint construction of large industrial complexes, international specialization and cooperation in production, extensive projects in R&D cooperation, and projects oriented toward the acceleration of the economic development of the Mongolian People's Republic--in many branches of the national economy there appeared CEMA construction projects. Among the latter belongs the construction of a plant for extracting and processing asbestos in the USSR, from the capacity of which the CSSR will annually import 14,000 tons of asbestos. Further came the implementation of construction of the transeuropean Soyuz gas pipeline, the operation of which will provide the CSSR with 2.8 billion cubic meters of gas annually for 20 years. The first half of 1979 saw the launching into operation of a 750 kV electric line between Vinitsa (USSR) and Albertirsa (Hungary) to which the CSSR is connected by a 450 kV line. Capacities were built for the production of ferrous ore materials, from which the CSSR will cover for a period of 12 years a substantial part of its needs for this raw material. Similarly, capacities for the production of ferrous alloys were built in the USSR. Important joint integration projects include a plant for the production of fodder yeast from highly pure n-paraffins of

of petroleum in Mazyr with a capacity of 300,000 tons annually, from which the CSSR will obtain deliveries of approximately 20,000 tons of fodder yeast annually, construction of an interconnected automated comprehensive system of communications within the framework of which the CSSR is building on its territory various types of telecommunication systems and, particularly, the construction of two plants for nickel-cobalt production on the territory of Cuba.

Multilateral integration measures include many currently pursued agreements regarding specialization and cooperation in production. This involves, e.g., production of technology for a containerized transportation system--CSSR engineering is oriented toward the production of self-propelled container trucks with a hoisting system and on electromechanical lifting systems. Particularly extensive is cooperation in the production of equipment for nuclear power plants, whereby the CSSR is building the relevant capacities for the production of four to five sets of components for nuclear power plants annually. The production of antifriction bearings is based on the concluded specialization and cooperation agreements within the Organization for Cooperation in the Antifriction Bearings Industry. The agreed-upon specialization includes 20,000 types sizes of antifriction bearings and enables interested countries to develop their production more intensively and effectively. On the basis of an agreement regarding specialization and cooperation in the production of drilling rigs and systems for the extraction of crude oil and natural gas, the CSSR is importing the mentioned products from the USSR and Romania.

A new plan of multilateral integration measures for the years 1981-1985 was promulgated at the 35th CEMA Plenum in July of 1981 in Sofia. This plan includes cooperation in the construction of the Khmel'nitskiy nuclear power plant and a 750 kV power transmission line from Khmel'nitsa to Rzeszow (Poland); completion of a plant for the production of fodder yeast; completion of construction of an interconnected automated system of communications; construction of installations and supplemental capacities in the area of transportation; specialization and cooperation in the production of equipment for nuclear power plants; production of antifriction bearings; production of VAZ passenger automobiles; chemical production with large and medium demands on energy; systems for processing solid fuels, ferrous and nonferrous metals, chemical raw materials for mining, mining equipment, systems for strip mining of ore-bearing and other useful minerals; tractors and agricultural machinery; technological systems for highly productive sugar mills and numerically controlled metalworking machinery. Also integrated into the plan are measures oriented toward accelerating the development and improved productivity of the national economies of Cuba, the Mongolian People's Republic, and the Vietnamese Socialist Republic. This involves primarily geological surveys to identify deposits of important minerals, in relation to Cuba the construction of new mining capacities for the production of nickel in Oriente Province, the development of production and industrial processing of citrus fruits, and a comprehensive development of sugar production.

Cooperation in the area of R&D is also projected into these integration measures. This led to the formation of international work groups of specialists and designers which deal with acute problems of mining, processing, and application of groundwood pulp, protection of metals against



corrosion, problems pertaining to effective methods for the production of proteins, improvement of the nutritive value of food, development of medical instrumentation for research and clinical medicine, development of a highly effective system for scrubbing gases, and research into new types of pesticides.

For 1981 through 1985 it is envisioned that R&D cooperation will deal with problems which are of particular importance to the development of the economy in the sphere of long-term planning, such as, e.g., the construction of power plants using gaseous, liquid and solid fuels; methods for conversion of solar, wind, chemical and geothermal energy into electric, thermal and mechanical energy; development of new viable technological processes and systems for production, transportation as well as public and housing management systems demanding on energy; development of the production of automated manipulators with programmed control (industrial robots); increased production of animal products on an industrial scale; development of the fodder base for animal production, and other topics.

A significant stage of continued development of socialist economic integration was embarked upon during the economic consultations of CEMA member countries at the highest level in June of 1984. They were held at a time that was ripe for an assessment of the substantial changes that had occurred in the course of past economic development of the member countries and the growth of their production and R&D potential, and for drawing from them at the same time conclusions which would make it possible to make more effective use than previously of the factor that plays an extraordinarily important role in the current effort toward achieving transition of the economy to a path of intensive development: international economic cooperation in all of its diverse forms. That is also why the key instrument for the development of cooperation is the coordination of economic policy through collective devising of methods for dealing with key economic problems. This collective approach to the coordination of economic policy indicates a qualitatively higher function for foreign trade. The sphere of foreign trade is becoming the implementor of the results attained through the coordination of economic policy, an instrument for accomplishing the process of socialist integration and the promotion of the participation of the CSSR economy in the international socialist division of labor.

The Czechoslovak national economy, its developed industry, high degree of depletion of extensive sources of development, and great dependency on developmental factors of the qualitative type that decide the growth of social productivity of labor, constituted mainly by engineering, technology, the degree of utilization of R&D advances, organization and management of the national economy, call for strong participation in integration processes. The role of the CSSR's foreign trade calls for active and energetic participation by its agencies and organizations in the formulation of the key trends in cooperation with other CEMA member countries on a multilateral and bilateral basis. This involves primarily the coordination of plans for the national economies for the next 5 year period. At the present time, for the years 1986-1990 planning agencies will unify and harmonize the key directions of economic cooperation between the CSSR and other CEMA countries. The implementation of the resolutions of economic consultations

at the highest level will thus open up for the CSSR new room for the direly needed development of economic relations with individual CEMA countries and with the entire economic community.

Data about the development of the commodity structure of CSSR deliveries with CEMA countries are shown for four groups of commodities of the uniform CEMA nomenclature of commodities (in percentage shares):

Turnover Commodity Group	1949	1960	1970	1980	1983
Machinery and systems	19.1	38.3	47.7	52.4	48.3
Raw materials, semifinished product, materials	40.6	36.7	34.0	34.2	38.4
Agricultural and food industry raw materials and products	22.9	12.5	6.7	3.5	3.0
Industrial consumer goods	17.4	12.5	11.6	9.9	10.3
Total	100.0	100.0	100.0	100.0	100.0
Exports					
Machinery and systems	32.6	47.2	60.0	63.5	63.8
Raw materials, semifinished products, materials	30.7	29.0	23.6	20.1	18.3
Agricultural and food industry raw material and products	5.5	3.2	1.4	2.0	1.8
Industrial consumer goods	31.2	20.6	15.0	14.4	16.1
Total	100.0	100.0	100.0	100.0	100.0
Imports					
Machinery and systems	3.8	28.9	34.7	41.3	34.1
Raw materials, semifinished products, materials	51.8	44.8	44.9	48.1	54.0
Agricultural and food industry raw materials and products	42.5	22.3	12.3	5.0	4.2
Industrial consumer goods	1.9	4.0	8.1	5.6	4.7
Total	100.0	100.0	100.0	100.0	100.0

(as published)

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CSO: 2400/202

INTERNATIONAL AFFAIRS

CSSR-POLISH TRADE TO INCREASE SUBSTANTIALLY IN 1985

Prague SVET HOSPODARSTVI in Czech No 150, 1985 p 1

[Article by Lubomira Cizova: "CSSR-Poland: Traditionally Good Relations--Exchange of Commodities Will Increase in 1985 by 18 Percent and Reach a Value of 1.9 Billion Convertible--Share of Products Supplied on the Basis of Agreements on Cooperation and Specialization Exceeds 20 Percent"]

[Text] The building of a socialist society and overcoming the consequences of the economic crisis in Poland is based primarily on its relations to other CEMA member countries. In addition to the Soviet Union, it is specifically Czechoslovakia which due to its geographical position and historical ties significantly contributes to the stabilization of the national economy of its northern neighbor and to the restoration of its economic prosperity.

Polish-Czechoslovak relations have a tradition of many years' standing, but their significance is increasing at this very moment when that country has set for itself considerable goals, including economic reform. According to the protocol of commodities exchange and payments for the coming year, mutual deliveries will exceed the current year's record level by 18 percent and reach the value of approximately 1.9 billion in convertible rubles [PRb]. A substantial part of this increment will accrue to the expansion of mutual deliveries of machinery and systems (by PRb 115 million in CSSR exports and PRb 125 million in CSSR imports). The CSSR will supply Poland in the coming year primarily with products of low- and high-voltage engineering, the metalworking and textile machinery, and agricultural machinery, including tractors and trucks. In the exportation of raw materials and semifinished products it will be primarily magnesite, kaolin, metal castings, metallurgical products, construction materials and chemical industry products. In CSSR imports from Poland will dominate electrotechnical products, mining and metallurgical machinery, power generation systems, construction and road building machinery, systems for coking and chemical plants, parts for motor vehicles, river boats, measuring instrument, and agricultural machinery including harvesters of the Bizon type.

Cooperative relations between enterprises are based on bilateral and multi-lateral agreements concluded within CEMA. The share of products delivered on the basis of agreements on cooperation and specialization is now exceeding

20 percent of the total turnover in commodities exchange. A significant contribution to industrial cooperation is the joint production of heavy tractors, which is to increase in either country from today's 6,000 to 8,000 units in 1990, with an ultimate goal of 12,000 units annually. This goal is also pursued by the efforts of the CSSR-Polish developmental center for tractors.

In addition to direct trade exchange, Polish-CSSR relations are undergoing development in many other areas. Polish construction crews will once again participate in the coming year in the construction of nuclear power plants in the CSSR, and also in the construction of a glass production operation in Plzen, joint construction of the Elbe and Vltava navigation routes will also continue, etc. Budimex, one of the largest Polish foreign trade enterprises, which provides construction and installation services for many countries on all continents, will provide a substantial part of those deliveries. Let us point out that this foreign trade enterprise together with the Elektrim enterprise concluded within the past several years the largest contract in the history of Polish-CSSR economic relations, when in 1982 they turned over the "turn-key" project of the power plant in Prostějov with nominal output of 1,050 megawatts. The overall value of that contract reached \$448 million. Budimex was to provide the CSSR this year with R45.2 million worth of construction and installation services, but all indications are that this amount will be exceeded.

On the other hand, CSSR specialists are successfully participating in the implementation of the most varied projects called for by the pressing needs of present-day Poland. This involves primarily the construction of the Żarnowiec nuclear power plant, for which the Skoda concern enterprise will supply four reactors. However, it also includes CSSR participation in the completion of some industrial investment construction projects in Poland, e.g., a plant for the production of graphite electrodes, which offers advantage to both countries.

Just as does Poland, the CSSR devotes a great amount of attention to the coordination of plans for the national economy in 1986-1990. It is oriented primarily toward material inputs into the economy of both countries, whereby the Polish side emphasizes exports of coal, sulfur, copper and zinc to the CSSR and, conversely, we shall supply Poland with magnesite, rolled stock and semifinished chemical products.

Bilateral CSSR-Polish cooperation, just as the wider participation by Poland in multilateral projects within CEMA, is a significant contribution to the efforts of the entire Polish society to meet their planned objectives. Tasks for the current and the coming year are a part of the 3-year plan for 1983-1985, oriented among other things toward providing sustenance for the populace while reducing their dependence on the importation of food and cereals, meeting the pressing demand for housing, improved availability of industrial consumer goods, and providing support for the socially weakest strata of the populace. National income is to increase in the coming year by 3-3.5 percent, industrial production by 4-4.5 percent and agricultural production by 1.4 percent. Polish exports to socialist countries (in current prices) are to increase by 7.1 percent and imports by 8.5 percent. An increase is also envisioned to occur in expenditures for R&D, availability of goods and services on the market, etc.



Ongoing development provides a good prerequisite for successfully meeting this plan. As can be seen from the official report of the Polish Main Office of Statistics, in the first 10 months of the current year (January-October 1983=100) industrial production for the market increased in constant prices by 5.7 percent, volume of construction increased by 7.1 percent, exports by 22.3 percent and imports by 22.8 percent. This indicates that Poland will meet the current year's tasks and in so doing will create the prerequisites for meeting the plan in 1985.

Meeting the basic needs of society and overcoming the consequences of crisis development would not be possible without the aid of the Soviet Union and other CEMA countries. As often emphasized by Polish representatives, adequate deliveries of raw materials from CEMA countries enabled Poland to continue production despite the economic sanctions by the West. The Polish People's Republic appreciates this help, but endeavors to consolidate for the future its position as an equal partner.

A prerequisite for this is also created by the current visit of the highest Polish representative--the first secretary of the PZPR Central Committee and chairman of the Council of Ministers of the Polish People's Republic, General of the Army Wojciech Jaruzelski, to Czechoslovakia. The visit will contribute to the further solidification of bilateral cooperation between Poland and the CSSR and the reinforcement of multilateral cooperation of all countries of the socialist community.

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CSO: 2400/202

BULGARIA

FOREIGN CURRENCY REGULATIONS OUTLINED

Sofia RODOLYUBIE in Bulgarian No 12, 1984 p 8

[Article by Borislav Penchev: "Currency Regulations Applicable to Private Persons in the Bulgarian People's Republic"]

[Text] The currency regulations in the Bulgarian People's Republic are governed by the decree on foreign exchange transactions and foreign exchange control adopted by the National Assembly and published in issue No 51 of DURZHAVEN VESTNIK of 1 July 1966. The decree established control over transactions and actions involving foreign exchange, and its purpose is to safeguard the state currency monopoly existing in the country. All transactions and actions involving foreign exchange contracted and carried out between local and foreign persons are subject to exchange control. Foreign exchange as defined by the decree consists in foreign bills, coins and paper money which are legal tender abroad, such as checks, bills of exchange, promissory notes, credit letters, payment orders, transfers, letters of credit issued in foreign currency, foreign securities (stocks and bonds), coined or processed gold, silver or platinum and precious stones when they are the object of transactions between local and foreign persons or when they are imported or exported in larger than customary amounts.

The decree explicitly defines who are local and foreign persons. According to the decree, local persons are all physical and legal persons whose permanent residence or headquarters are in the Bulgarian People's Republic, regardless of their citizenship. Foreign persons are all physical and legal persons whose permanent residence or headquarters are abroad, regardless of their citizenship. Persons who have been absent from the Bulgarian People's Republic for more than 6 months or who intend to settle abroad, and also the foreign diplomatic, consular, trade and other representations, international organizations, the members of these representations and organizations, their families and the foreign citizens at their service are regarded as foreign persons.

The restrictions on foreign exchange in the Bulgarian People's Republic do not harm the relations between foreign persons visiting the country for commercial transactions, personal affairs or tourism. Article 30 of the decree says that foreign persons may deposit in the Bulgarian Foreign Trade Bank in "foreign lava" accounts sums acquired through the sale of foreign



currency or in payment for foreign goods and commissions payable in foreign currency.

Foreign persons may freely draw on these accounts and receive foreign currency against the amounts drawn according to regulations established by the bank. The same persons may also maintain at the Bulgarian Foreign Trade Bank current accounts in foreign leva and current and bank deposit accounts in foreign currency. The Bulgarian Foreign Trade Bank authorizes the opening of these accounts based on the definition of "foreign person" as established by the decree and an examination of the origin of the sums to be deposited into these accounts. For example, sums in leva acquired through the sale of foreign currency must be authenticated by a foreign exchange note, and the sums in levass for goods and commissions must come from authorized enterprises and not from private persons. The bank pays interest on foreign currency bank deposit accounts of foreign persons and the rate of interest depends on the conditions set forth by the Bulgarian Foreign Trade Bank at the opening of the account. Foreign persons may pay into their deposit accounts sums out of available foreign currency--money bills, currency originating from transfers from abroad, checks, letters of credit, etc. The owners of these accounts may withdraw sums in leva here for buying goods from the Korecom domestic trade organization and for payment of tickets for air, sea and rail transportation for travel abroad. Transfers to other foreign persons from accounts with the Bulgarian Foreign Trade Bank and payable in foreign currency always are calculated at the exchange rate of the Bulgarian National Bank, announced in monthly bulletins.

Foreign persons may maintain interest-free "local leva" bank deposit accounts at the branches of the State Savings Bank. Foreign persons deposit in these accounts sums originating from incomes from private or inherited real estate, from the sale of personal or inherited real estate or inherited bank deposit accounts. Foreign persons may use sums out of the "local leva" accounts only inside the country.

The "local leva" accounts maintained at the State Savings Bank are accounts of foreign persons only and are under the control of the Ministry of Finance. The owners of these accounts may freely draw on these accounts up to specified amounts for themselves and members of their families. Larger amounts may be withdrawn with special authorization from the Ministry of Finance.

Sums of money may be drawn from accounts for expenditures in the country and for buying plane tickets for the owner and members of his family for the routes flown by BGA-Balkan planes.

The transfer of sums from these accounts at the Bulgarian Foreign Trade Bank, the Bulgarian People's Bank and the State Savings Bank to local physical persons is possible only after preliminary agreement by the Ministry of Finance and the bank.

In principle, foreign persons visiting the Bulgarian People's Republic for various reasons--merchants, visitors, tourists, patients, or students--are free to import foreign exchange. The import or export of bills, securities, etc, in Bulgarian leva is not allowed. Foreign persons are not required to declare the foreign bills, coins and checks carried by them.

According to the international agreement of 24 June 1963 and the bilateral agreements between the Bulgarian Foreign Trade Bank and the respective banks of the countries concerned, foreign persons who are citizens of CEMA member countries, when abroad, may export and exchange in the Bulgarian People's Republic national currency in bills up to 30 rubles.

The import of unusual amount of jewelry, of gold, silver and platinum in the form of coins, of precious stones, gold and silver jewelry and foreign instruments of payment, such as promissory notes, drafts, securities (stocks and bonds), must be declared to customs at the border control points. The customs officers are required to issue an inventory list against which they may be exported when leaving the country.

Foreign persons may export foreign currency and financial instruments previously imported by them. Foreign persons, when leaving the country, may ask the exchange office at the border to exchange into foreign currency their remaining leva, provided they were acquired through previous exchange of foreign currency against a bank statement. The amounts involved may be transferred to a specific address abroad against the bank statement through the Bulgarian Foreign Trade Bank or to a "local leva" account with the State Savings Bank for use during a subsequent visit to the country.

Foreign persons are allowed to export artifacts bought in the country with foreign currency at special shops and stands. To do so they are required to present the sales receipts to customs.

Foreign persons visiting the Bulgarian People's Republic pay all purchases and services with Bulgarian leva acquired through exchange of currencies at the exchange offices.

When exchanging foreign currency, foreign persons receive the equivalent in leva based on the exchange rate of the Bulgarian National Bank announced in monthly bulletins. This rate is published monthly in DUREZHAVEN VESTNIK. Foreign persons may receive an 80 percent bonus on the published exchange rate if they are tourists or have paid in advance two overnight stays in hotels of the Bulgarian Association for Tourism and Recreation. For example, the official exchange rate of the Bulgarian National Bank for 1984 is 80.10 leva for 100 Canadian dollars, and foreign persons exchanging on the basis of the tourist rate will receive 144.18 leva for 100 Canadian dollars. The tourist exchange rate is applicable only to exchange carried out at the exchange bureaus of the Bulgarian Association of Tourism and Recreation, that is, at the establishments of Balkan tourist. The exchange counters of the Bulgarian National Bank and its branches in the country do not pay the tourist rate in exchange operations.

The foreign currency regulations applying to private persons in the Bulgarian People's Republic are aimed at insuring and safeguarding the currency-related interests of the national economy and at contributing to the development of mutually profitable economic, scientific and technological cooperation between countries.

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CSO: 2200/84

CZECHOSLOVAKIA

LONG-TERM AGRICULTURAL DEVELOPMENTS ANALYZED

Prague STATISTIKA in Czech No 9-10, 1984, pp 385-395

[Article by Frantisek Drtina: "The Long-Term Development of Czechoslovak Agriculture"]

[Text] The development of the agricultural sector in the pre-Munich bourgeois republic was characterized by considerable fragmentation in ownership of the soil stock and the direct dependence on agriculture of a significant portion of the population, for whom agricultural work was the only source of income. This was accompanied by the progressive impoverishment of small farmers, an increase in their indebtedness and therefore in their dependence on large farmers and the bourgeoisie. The agricultural proletariat was in an even more precarious condition because it was being exploited in a particularly onerous way.

Although there were large territorial differences, the living standard of the rural population was particularly low. Agricultural wages amounted to an average of 50 percent of industrial wage levels nationwide. Small farmers frequently had to sell almost all of their output in order to obtain the resources they needed to pay their debts and to continue to operate, even though their consumption of basic foods was inadequate.

During World War II agricultural operations were based to a large extent on total procurement of agricultural products, a practice which disrupted the normal course of agricultural production. It was especially evident in declines in herds of economic animals. In 1938 the national average was 1.06 units of livestock per hectare of agricultural land, a figure that had declined to 0.78 units by 1947. Cattle herds declined from 4.7 million head in 1938 to 4.1 million head in 1946. There was also a substantial decline in per hectare yields. While in 1938 a yield of 2.05 tons of wheat per hectare was achieved, in 1945 the figure was only 1.27 tons per hectare. Potato yields in this period declined from 13.19 tons per hectare in 1938 to 9.47 tons in 1945, and sugar beet yields declined from 28.37 tons per hectare to 20.49 tons per hectare between 1938 and 1945.

The situation was made worse by the catastrophic drought in 1947, which caused an additional steep decline in per hectare yields (to 1.04 tons per hectare for wheat, 7.19 tons per hectare for potatoes, and 13.0 tons for sugar beets).



Coupled with the direct material damages from the war, this drought complicated the assurance of the main objective of agricultural policy, i.e., providing food for the people after the suffering of the war.

To assist in meeting this objective the CPCZ organized workers from all other national economic sectors to provide broad assistance to farmers. Their conscientious work in the countryside was their way of practically implementing the slogan "Our commitment is to give more work to the republic." At the same time the CPCZ, just as it had in other sectors, had to see uncompromisingly to the implementation in agriculture of the Kowice Governing Program by instituting new land reforms which abolished large estates and distributed the land to blue-collar agricultural workers, small and in some cases medium-scale farmers. These groups gained in this way more than 20 percent of the total agricultural land in the CSSR between 1945 and 1948. This strategy increased the incentive for farmers to increase agricultural production and made it possible to cultivate all the available land, which was no small task after the expulsion of the German population.

While the initial phases of the land reform brought the confiscation and distribution of the land of enemies and traitors, the so-called Hradecky Program announced by the CPCZ in April 1947 cut deeply into the position of the bourgeoisie in the countryside and therefore brought about their futile resistance. This program, which by the way could be fully implemented only after the February victory, provided that all land in excess of 50 hectares would be distributed between small and medium-scale farmers, and that all land holdings below this limit would also be subject to redistribution if the landowner did not work the holdings himself.

The actual distribution of the land took place in close cooperation with the farmers themselves, according to plans of farmer commissions affiliated with local national committees, and without excessive delays. This allowed large groups of farmers who had had very bad experiences with the land reform conducted by the Agrarian Party after World War I to convince themselves that now was the time that the slogan "The land belongs to those who work it" was actually being acted upon. The farmers, who became more and more closely allied with CPCZ policies, expressed their position by actively supporting the adoption of agricultural regulations and by their highly visible role in the events of February, culminating on 28 February 1948 in the famous Congress of Farmer Commission Delegates.

It gradually became clear that fragmented, small-scale agricultural production could not serve as a permanent base for agricultural development, given the dynamic development of the nationalization of industry and other sectors.

The gradual socialist restructuring of agriculture, primarily by introducing cooperatives in rural areas, became the basis for further development. In 1949 the National Assembly of the Czechoslovak Republic adopted the law concerning united agricultural cooperatives [JZD].

The initial model JZD statutes stated that "A United Agricultural Cooperative, the objective of which is to unify all cooperative life in the countryside, is

founded upon popular and democratic principles which guarantee that this cooperative movement will serve small and medium-scale farmers and other working people. Its mission is to assist farmers in improving agricultural production, fulfill the 5-year plan for agriculture, and act to increase the social and cultural amenities available in rural areas."

It is a tribute to the purposeful policy of the CPCZ that farmers as a group came gradually to understand more and more of its objectives in the area of agriculture, meaning that the concept of cooperative creation found greater and greater acceptance among small and medium-scale farmers. Nevertheless, the entire restructuring of our agriculture took place in an atmosphere of sharp class struggle in which domestic and foreign reactionary forces attempted to stop the socialization process with unscrupulous methods, including terror directed at individual party functionaries, national committees, and members of the fledgling cooperatives.

In this regard it is appropriate to mention the mission and role of the working class, which played an important part in organizing rural cooperatives. Thousands of committed factory workers devoted all of their free time on a regular basis and most of their energy to support the development and spread of cooperatives and the evolution of socialism in rural areas. Implementing the slogan "There will be no socialism in this country without the conversion of the countryside to socialism and there will be no conversion of the countryside to socialism without an alliance, a union between the working class and the basic mass of small and medium-scale farmers", which had been proclaimed by Comrade Gottwald at the Ninth CPCZ Congress, gradually became an important concern for all people.

Clearly, such a difficult and pioneering activity on the part of so large a group of people would encounter difficulties originating in, among other things, limits on the resources and capabilities available for assuring the dynamic flow of the socialization process in the countryside. What turned out to be decisive, however, and what is remembered, are the positive aspects of the activities of the committed factory workers and others who participated with the farmers in the socialization process in the countryside.

It was right here, during daily cooperation, that the union was cemented between blue-collar workers and working farmers, a union that has played a key role in the entire postwar development of Czechoslovakia and has met all tests with honor. There is no doubt that the formation of this alliance is the most important outcome of the entire process of the socialization of agriculture, and that its influence has extended well beyond the framework of agriculture to the entire process of building socialism in the CSSR. If, then, one looks back during preparations for the 10th Anniversary Nationwide JZD Congress, he can be truly proud of the way the Leninist cooperative plan has been implemented in this industrially advanced country, of the way its humanitarian objectives have been fulfilled, above all the elimination of exploitation and poverty, of significant social differences, and gradually of drudgery, even though agricultural work remains today both difficult and tiring.



Farmers have gradually been able to rise above their own individual interests, and subordinate themselves to the good of the whole, devoting their efforts to the building of socialism, often at the price of temporary difficulties.

Of particular importance during this period were machine tractor stations, which controlled most of the available agricultural equipment, and state farms which, as the first agricultural enterprises of the socialist sector, played an important role in assuring market production of certain important agricultural products, in the production of seed and seedlings, in the practical implementation of progressive experiences and R&D findings, and in designating the paths and potential for the development of socialist agricultural mass production. This was true even though they cultivated only a small percentage of the available agricultural land.

With the exception of some mountainous areas, primarily in Slovakia, the socialization of agriculture had been completed by the late 1950's. In 1960 the socialist sector managed 88 percent of the stock of agricultural land, 92.5 percent of this land in the CSR and 80.5 percent of this land in the SSR. At this time JZD's, including private plots, managed 67.5 percent, or more than two-thirds of all agricultural land.

The completion of the socialist restructuring and gradual consolidation of agricultural enterprises created the conditions for the transfer of most of the agricultural machinery and equipment from machine tractor stations directly to JZD's and state farms. While in 1958 57 percent of the tractors and almost 75 percent of the combine harvesters were still at machine tractor stations, by 1960 only 8 percent of the tractors and 16.5 percent of the combine harvesters were at these stations.

This period was also characterized by widespread mergers of cooperatives into larger production entities, so that by 1962 there were 7,912 JZD's in operation, as opposed to 12,560 cooperatives in 1959. Another stage in this widespread merger activity occurred in the Fifth 5-Year Plan, with the number of cooperatives declining to 2,206 by 1 January 1976. In early January of this year the gradual merger of additional cooperatives left their numbers at 1,697.

These mergers have gradually increased the average amount of agricultural land belonging to a single JZD. This figure increased by a factor of 9.4 between 1955 and 1983. Since 1970 alone the amount of land managed by a single cooperative has increased by a factor of 4. This has created the requisite conditions for improving production concentration and more intensively applying progressive techniques and forms of management, more effective administrative techniques, and more effectively utilizing all of the advantages of socialist agricultural mass production.

Table 1. Pace of the socialization of agriculture and size of socialist agricultural enterprises

Indicator	Year							
	1950	1955	1960	1965	1970	1975	1980	1983
Socialist sector as percentage of total:								
--agricultural land of which JZD's including private plots	22.1	42.6	88.0	90.0	90.0	94.2	95.7	95.8
	9.1	26.7	67.5	60.2	60.3	63.5	64.8	64.9
--arable land of which JZD's including private plots	20.1	43.2	90.9	93.1	93.2	96.6	97.9	98.1
	10.1	28.9	71.4	64.5	64.7	67.0	67.8	68.0
Number* of: JZD's	1,873	6,795	10,816	6,538	6,200	2,206	1,722	1,697
state farms	238	179	365	345	331	230	200	223
Average enterprise size in hectares of agricultural land								
JZD's	.	270	420	608	638	1,920	2,486	2,526
state farms	2,449	4,517	3,105	4,246	4,329	6,177	6,797	6,264

\*since 1962 based on geodesy and cartography as of 1 January of following year.

The advantages of large-scale over small-scale agricultural production are clear and have been confirmed by worldwide developments. For socialist agricultural enterprises the advantages also include the potential for planned development based on maximum worker incentives to increase production. For cooperatives these advantages include special economic incentives corresponding to cooperative ownership which support the taking of initiative, increasing production, and fostering the prosperity of the cooperative. The successes of individual JZD's and other socialist agricultural enterprises, which were evident in their performance figures, had an impact on the realistic attitude of the agricultural work force in the years of crisis.

The socialist restructuring of agriculture provided valuable experiences not only for us but for the entire international progressive movement. The convincing results of our agriculture are today recognized throughout the world. Socialist agricultural enterprises are to a greater and greater extent paying back the substantial resources that have been expended on their development.

The systematic and purposeful attention of the communist party and the socialist state throughout the postwar period has borne fruit. It has been fully confirmed that the foundations of this sector built during its nationalization on the basis of socialist mass production are solid enough to make possible continuing comprehensive development.

At present specialist agricultural enterprises are assuring a majority of both plant and livestock production. In 1983 they accounted for 88.8 percent of total agricultural output (93.1 percent when private plots, which depend greatly on the land, and other equipment of cooperatives are included) and for 95.5 percent of market production for state inventories (96.9 percent of this when private plots are included). This gives them a decisive influence over the trends and performance of our agricultural sector, which in 1983 produced 51.8 percent more output than in the prewar year of 1936. Livestock production was in fact 80.5 percent higher than in 1936. Both results were achieved with a substantially smaller work force (23.8 percent of that in 1936) on 13 percent less agricultural land.

Agricultural labor productivity has increased markedly. The average annual output of a single worker in 1983 was, in comparable prices, the equivalent of 5 and 1/2 years' work for an agricultural worker prior to the war. This meant that in 1962 each agricultural worker fed 16.1 inhabitants, while before the war each agricultural worker fed only 4 people. This figure is the highest of all the socialist countries, with the exception of the GDR, where one worker fed 18.8 people in 1962.

The total volume of gross agricultural production prior to the Second World War was surpassed, when expressed in 1980 prices, only in 1966, even though the volume of gross agricultural production per hectare of agricultural land was exceeded in 1960, and the per employee production average exceeded in 1948 (by 5.5 percent). The postwar period has also seen a significant change in the structure of production. Beginning in 1950 plant production gradually ceased to be the predominant component of output, with livestock production becoming dominant in 1964. Last year livestock accounted for 56.3 percent of gross agricultural output and plant production 43.7 percent.

Over the long term substantial increases in the average annual volume of agricultural production have been achieved in the Fourth 5-Year Plan (11.8 percent), the Fifth 5-Year Plan (11.3 percent) and the Sixth 5-Year Plan (7.9 percent). Agriculture has thus gradually become a stabilizing and growth-enhancing factor in the development of the entire national economy, with the increasing production of food and agricultural raw materials making ever increasing contributions to economic development and the living standard of our citizens.

Table 2. Basic indicators of agricultural development

Indicators	Year								
	1936	1950	1955	1960	1965	1970	1975	1980	1983
Gross agricultural production [HWP] in billions of korunas (constant 1980 prices)	72.6	61.5	65.3	69.6	67.8	84.8	94.7	103.8	110.2
of which: plant	38.2	30.5	34.6	34.7	29.3	37.5	40.4	43.5	48.2
livestock	34.4	31.0	30.7	34.9	38.5	47.3	54.3	60.3	62.0
HWP in thousands of Kcs per hectare of agricultural land	9.4	8.4	9.0	9.6	9.5	12.0	13.6	15.3	16.3
HWP in thousands of Kcs per employee	22.0	29.9	33.8	47.5	53.8	72.0	92.4	108.8	118.1
Number of employees in thousands	3,298	2,056	1,932	1,466	1,259	1,178	1,024	953	933
Mean amount of agricultural land in thousand hectares	7,756	7,345	7,233	7,282	7,114	7,040	6,955	6,801	6,748
Value of equipment in thousands of Kcs in constant 1977 prices:									
--per hectare of agricultural land	.	6.0	7.1	9.3	12.9	16.2	21.9	31.1	37.2
--per employee	.	21.5	26.6	46.1	72.6	97.1	149.0	221.9	269.1
Consumption of industrial fertilizers in kilograms of pure nutrients	13.1	21.3	44.6	68.0	115.2	168.6	222.0	256.7	260.1



In the Seventh 5-Year Plan the objective was to increase average annual agricultural production by 5.4 percent in comparison with the Sixth 5-Year Plan, with the average increase for the first 3 years actually amounting to 6.3 percent. The 1981-1983 objectives of the Seventh 5-Year Plan were exceeded by 2.4 percent, with the decline in gross agricultural production [HZP] of 1981 more than made up for by increases in the next 2 years.

The rise of agricultural production and its overall development has occurred in response to the fact that the CSSR is among those countries with the lowest amount of available per capita agricultural land and because of a national policy of increasing national self-sufficiency in grain and food production.

These policies are based on eliminating all but the most essential declines in the amount of agricultural and arable land, with special emphasis on conserving the richest soil, the effective utilization of all land, and increasing its fertility so as to achieve maximum possible yields per hectare.

Through the adoption and implementation in recent years of important measures proposed by party and state agencies we have succeeded in increasing our protection of the soil stock and significantly reducing average annual losses. In 1981-1983 these amounted to 6,300 hectares, only 1,300 hectares of which were arable land, in comparison with the loss of 34,200 hectares in the Sixth 5-Year Plan, 19,800 of which were arable land.

Capital investment projects accounted for 40 percent of the loss of agricultural land in 1981-1983, and for 60 percent of losses of arable land.

The amount of temporarily uncultivated arable land is also declining, from an average of 32,000 hectares in the Fifth 5-Year Plan to 23,000 hectares in the Sixth 5-Year Plan to only 13,000 hectares in 1981-1983 (these were either plots that were being upgraded, wetlands, or plots that served as handling areas, etc.).

Soil improvement and other fertility-enhancing programs are playing a large role in improving soil management and fertility. In recent years drainage systems have been installed in about 50,000 hectares and irrigation systems in about 15,000 hectares annually. These have been accompanied by other capital projects such as modifying water flows and building reservoirs for irrigation systems. In addition, noninvestment fertility-enhancing and soil recultivation projects are conducted every year. In view of the excessive acidity of our soil, the liming of plots has become very important. In recent years we have been able to increase significantly the number of hectares treated under this program, from an average of 176,000 hectares during the Sixth 5-Year Plan to an average of 233,000 hectares in 1981-1983, or by almost 33 percent. Per hectare applications of lime fertilizers in 1983 amounted to almost 465 kilograms, while the average for 1971-1975 was only 186 kilograms.

The lack of organic substances in the soil can be moderated by the increasing amount and especially quality of farm fertilizers. In recent years the amount of manure used for fertilizing and compost has increased by 2.4 percent. Further improvements in its use are essential, as is an increase the efficiency of the

industrial fertilizers that are used. Applications of these latter substances have also increased substantially over the long term. While in 1936 only 13.1 kilograms of pure nutrients were made available to each hectare of agricultural land, a figure that had increased to 118.2 kilograms by 1965, in 1983 the figure reached 260.1 kilograms. These are the heaviest application rates of any country in CEMA and exceed those of France, Great Britain, and Italy. Nitrogen fertilizers increased substantially from 23.6 percent of total consumption of industrial fertilizers measured as pure nutrients in 1936 to 38.4 percent in the past year.

These factors are among those which have significantly influenced the results that have been achieved in plant production. Over the long term and in comparable prices, by 1983 the most significant progress over the situation that had prevailed in 1936 had been in the overall production of grains, technical crops, fruit and wine grapes. In constant 1980 prices the production of all of these crops is about two times what it was in 1936. On the other hand, potato production, since potatoes are no longer used as fodder, has been reduced in a planned manner so that today it represents only about one-third of what it was prior to the war. We have still not been successful, however, in achieving the requisite quality in the potatoes that we do produce. The production of bulk fodders has increased to the requisite levels only recently but there still remain significant areas of potential improvement and large fluctuations in quality, especially in fodder preserved for use in the winter.

Production increases have been facilitated mainly by increases in per hectare yields, especially in the case of grains. Average yields for the 1981-1983 period for grains were about 2.4 times those of the 1934-1938 period, with wheat yields greater by a factor of 2.6, rape seed yields greater by a factor of 1.5, and potato yields better by a factor of 1.3. The highest per hectare grain yields and the largest harvest to date was in 1983. There are also significant differences in per hectare yields between different areas despite the overall upward trend.

For wheat, for instance, the average for 1981-1983 achieved in 11 okreses was in excess of 5.0 tons per hectare, while 6 okreses did not average more than 3 tons per hectare.

These increased per hectare yields are being influenced significantly by new, improved cultivars and the increased exploitation of their biological capabilities though increased applications of industrial fertilizers and an overall increase in the quality of agricultural equipment and practices.

The effort to resolve comprehensively the grain problem and to optimize the structure of plant production has been evident in the fact that grain production increased from 24.1 percent of gross plant production in 1936 to 38.8 percent in 1983. The greatest decline was for potatoes, from 26.8 percent in 1936 to a mere 6.6 percent in 1936 to a mere 6.6 percent in 1983.



Table 3. Production of main plant products in constant 1980 prices (1936=100)

<u>Product</u>	<u>Year</u>								
	<u>1948</u>	<u>1950</u>	<u>1955</u>	<u>1960</u>	<u>1965</u>	<u>1970</u>	<u>1975</u>	<u>1980</u>	<u>1983</u>
Grains	87.8	86.5	94.2	105.7	98.9	129.1	168.0	193.5	202.6
Technical crops	95.6	112.2	128.2	168.9	118.4	131.2	161.4	177.6	191.1
Fodder crops and root crops	67.1	62.8	96.0	90.2	90.0	103.8	103.4	111.0	115.3
Potatoes	59.2	79.6	76.4	49.7	39.5	46.8	34.8	26.3	34.7
Vegetables	120.8	97.5	116.6	113.8	100.4	112.8	110.0	96.3	104.1
Fruit and wine grapes	114.8	115.5	89.0	138.8	48.8	125.4	120.5	144.8	195.1
Hops	41.3	44.0	49.4	60.5	59.5	86.6	90.4	83.0	96.5

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Table 4. Long-term evolution of per hectare yields (in tons)

<u>Annual average for</u>	<u>Grains total</u>	<u>of which</u>		<u>Rape and repice</u>	<u>Potatoes</u>	<u>Sugar beets</u>
		<u>Wheat</u>	<u>Corn</u>			
1934-1938	1.67	1.71	2.14	1.47	13.48	28.58
1951-1955	1.85	1.91	2.34	1.03	12.79	24.00
1956-1960	2.08	2.12	2.68	1.38	12.09	27.18
1961-1965	2.25	2.42	2.63	1.31	11.52	27.58
1966-1970	2.71	2.90	3.53	1.59	15.11	36.50
1971-1975	3.45	3.66	4.41	2.04	15.42	34.85
1976-1980	3.84	4.05	4.50	2.11	16.69	33.43
1981-1983	4.03	4.41	4.66	2.25	17.89	33.42

Increases in overall grain harvests have been influenced significantly by changes in the mix of specific grains, with wheat being planted in increasing amounts at the expense of less productive rye and oats. Wheat increased as a percentage of the total grain harvest from 26.8 percent in the 1934-38 period to 48 percent in 1981-1983, with the figure for 1983 being 52.7 percent.

Livestock production has increased more rapidly over the long term than plant production, which is evident from the fact that since 1960 its volume has consistently surpassed the prewar level, while plant production exceeded prewar levels consistently beginning only in 1977.

Between 1936 and last year there was an increase in gross annual livestock production of 80.5 percent, even though limited domestic sources of feed have forced limitations to be placed in several recent years on the production of slaughter swine and poultry by regulating herds through the liquidation of certain less efficient breeds. Nevertheless, of the main livestock products it is the production of slaughter swine that has seen the greatest increase in comparison with 1936--a 293 percent increase--along with slaughter poultry--an increase of 475 percent. The smallest increases during this time have been in milk production (31.9 percent), which surpassed prewar production levels only in 1971. The greater attention being paid to cattle breeding in recent years yielded in 1983 a substantial increase of 11 percent in milk production. This is an unprecedented increase in milk production for the postwar period, one that has been continued into the current year. Economic mechanisms designed to support the development of cattle breeding that have been gradually adopted in recent years have had a favorable influence on this development.

Egg production is also higher than prewar levels by a factor of almost 3.

Table 5. Production of main livestock products in constant 1980 prices (1936=100)

<u>Product</u>	<u>1948</u>	<u>1950</u>	<u>1955</u>	<u>Year</u> <u>1960</u>	<u>1965</u>	<u>1970</u>	<u>1975</u>	<u>1980</u>	<u>1983</u>
Total slaughter livestock	68.4	120.1	115.4	140.7	173.3	187.4	232.1	253.1	250.8
of which: cattle	59.6	89.4	82.7	105.5	131.4	154.0	195.0	203.5	205.1
swine	87.2	186.1	183.2	222.5	279.5	275.0	350.4	405.0	393.0
Slaughter poultry	59.0	82.3	122.5	157.9	183.4	353.3	463.1	591.9	575.1
Milk	52.8	66.9	72.0	78.4	80.3	98.1	111.8	120.9	132.9
Eggs	70.8	104.0	112.4	136.7	177.2	222.2	258.6	278.6	296.7

The significant increase in livestock production has been made possible mainly by the importing of concentrated fodders, a practice which has declined in recent years.

An increase in the usability of economic animals has been supported by the growth of the fodder industry, which has developed the preconditions for improving the processing of concentrated fodders. The production of balanced fodder mixtures in 1983 was about nine times higher than that of 1960.

The average annual milk yield from a single cow has increased by 66.2 percent since 1936, and the egg yield from a single hen by 79.5 percent since that time. Overall production intensity, expressed as production per hectare of agricultural land, has increased for slaughter cattle, calves and swine from 81 kilograms per year in 1936 to 247 kilograms of live weight today, an increase of a factor of more than 3. Average milk production has increased from 611 liters to 934 liters, i.e., by more than 50 percent, and egg production has gone from 242 units to 775 units, an increase by a factor of 3.2.

Future possibilities for increasing the usability of cows are indicated by the results of Dunajska Streda Okres, which in 1983 obtained an average per cow milk yield of 3,265 liters, and of Gottwaldov, where the per cow yield was 4,249 liters.

Differentiated development in individual sectors of livestock production has meant a significant change in its structure. For practical purposes, in comparison with the situation in 1936 slaughter cattle production (excluding calves) represents the same percentage of gross livestock production, while slaughter swine have increased from 10.8 to 23.6 percent of gross livestock output, and slaughter poultry has increased from 1.8 percent to 5.8 percent. On the other hand, milk production has declined steadily from 44.2 percent of total output in 1936 to 32.5 percent in 1983.

This rapid increase in the production of the major livestock products has made it possible gradually to cover domestic consumption requirements for these products. Food consumption now, in comparison with the prewar diet, is characterized by an increased percentage of foods of livestock origin. The overall increase in the quality of the diet is represented above all by high meat consumption, which is one of the highest in Europe even with the moderate declines of recent years. Last year annual per capita meat consumption amounted to 83 kilograms of undressed meat, while in 1936 it had been only 34 kilograms, in 1948 only 29 kilograms, and even in 1960 only 57 kilograms, or more than 33 percent less than currently.

Table 6. Long-term evolution of livestock production and usability of economic animals

Year	Production per hectare of agricultural land of:			per 100 hectares of land** at the end of the year the following numbers of:		Average annual	
	meat* in live weight	milk in liters	eggs in units	cattle	swine	milk output in liters	egg output in units
1936	81	611	242	56.5	56.4	2,035.0	128.0
1948	59	338	150	49.4	62.3	1,334.0	110.3
1950	108	432	219	58.4	74.8	1,584.7	115.3
1955	106	472	240	46.3	103.0	1,616.2	94.2
1960	128	510	311	60.4	116.4	1,806.4	104.0
1965	162	535	423	61.8	109.4	1,954.5	141.1
1970	175	660	530	61.0	110.8	2,487.9	174.9
1975	221	762	647	65.7	136.5	2,803.0	218.3
1980	249	843	720	73.9	164.6	3,089.0	228.3
1983	247	934	775	76.9	147.5	3,383.6	229.7

\*slaughter cattle, calves and swine

\*\*cattle on agricultural and swine on arable land

The results achieved by our socialist agriculture in the 35 years of its existence are significant while at the same time clearly demonstrating the success of its long-term development. These results were facilitated by a proper agricultural policy first applied by the CPCZ after the Second World War but only fully implemented after the victory of the working people in February 1948. The achievement of these results required the expenditure of high levels of investment capital and other inputs from the beginning of socialist agriculture. These expenditures in the immediate postwar years served primarily to compensate for a decline in the agricultural work force, most of whom entered the other sectors of the national economy, especially industry and construction. It was also necessary fairly rapidly to replace small-scale equipment and facilities which were unusable for the purposes of socialist agricultural mass production and joint management. During this time, and in later years as well, we were assisted significantly by deliveries of state-of-the-art equipment from the Soviet Union, especially caterpillar tractors and grain combines, which had not previously been in use in our country.

Gradually improving production performance increased the prosperity of united agricultural cooperatives, state farms, and other socialist agricultural enterprises, and improved their economic performance.

This became especially evident in the levels of bonuses and wages for agricultural employees, which were initially significantly lower than in the other national economic sectors. This was one of the causes of the large exodus of the work force from agriculture, especially in areas where alternative employment opportunities existed. Between 1948 and 1960 there was a decline of 34.4 percent in the number of workers engaged in primary agricultural production, and another 14.7 percent decline through 1965. The declines slowed down in subsequent years, with the work force stabilizing after 1980. This has been



accompanied by a significant increase in the qualifications, professional and age structure of agricultural employees.

The gradually increasing public estimation of agricultural work and the increasing intensity of production and labor productivity has made it possible to fulfill one of the basic objectives of agricultural policy, namely the balancing of compensation for agricultural employees with that of employees in other sectors. While in 1960 the average compensation for a JZD employee, including payments in kind, was only 62.5 percent of that of a worker in the socialist sector of the national economy (excluding the JZD), by 1970 the percentage had increased to 83.8 percent, by 1980 to 100.1 percent, and by 1983 to 104.5 percent. For state farms the average wage reached that of the socialist sector of the national economy in 1983. At the same time last year one-half of each percentage gain in labor productivity could be attributed to wage increases, while about 60 percent of each percentage increase in JZD labor productivity could be attributed to wage increases.

Table 7. Gradual balancing of average wages (compensation) of agricultural employees with other sectors of the national economy (in Kcs)

Year	Socialist sector of national economy [NH] as a whole (excluding JZD's)	Industry	State farms	JZD*	State farm wages as percentage of NH	JZD wages as percentage of NH
1960	1,365	1,442	1,073	853	78.6	62.5
1965	1,493	1,573	1,287	1,102	86.2	73.8
1970	1,937	1,967	1,770	1,623	91.4	83.8
1975	2,304	2,338	2,175	2,199	94.4	95.1
1980	2,637	2,723	2,532	2,640	96.0	100.1
1983	2,789	2,921	2,787	2,914	99.9	104.5

Indexes:

1960=100	204.3	202.6	259.7	341.6
1970=100	144.0	148.5	157.5	179.5
1980=100	105.8	107.3	110.1	110.4

\*comparable wage consisting for cooperative members of net pay plus payroll taxes from tax tables

To put the above wage level table in perspective, it should be noted that agricultural employees normally work longer hours than those in other sectors. For instance, in 1983 one full-time manual JZD worker worked an average of 2,165 hours annually, one full-time blue-collar state farm worker 2,155 hours, while the average employee in industry worked an average of only 1,923 hours.

The results of a microcensus indicated that in 1980 the total net incomes, including payments in kind, per family member of a cooperative farmer were higher than the average for all other monitored households.



These facts have had a gradual impact on the entire life style and made possible a comprehensive increase in the standard of living of agricultural employees and of the countryside generally. Country life has indeed been changed radically. Since 1953 all villages have been linked by a telephone network, and in 1960 electrification was completed throughout Czechoslovakia. The number of citizens supplied by public water mains was 73.7 percent of the total in 1983, while 60.1 percent of our citizens live in homes hooked up to public sewer systems. The results of the 1980 census of people, homes and apartments indicated that there are no significant differences between the housing conditions of cooperative farmers and of all other households.

As discussions at the 10th Nationwide JZD Congress indicated, these facts have had an impact on the high initiative and commitment of agricultural employees. These people are devoting their efforts to the ever more complete utilization of all underutilized capacities for the efficient development of agricultural production and the fulfillment of the tasks of the 16th CPCZ Congress.

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CZECHOSLOVAKIA

COMPARISON OF AGRICULTURAL PRODUCTIVITY ON FARMS MADE

Prague STATISTIKA in Czech No 9-10, 1984 pp 407-416

[Article by Zlatka Divilova and Jaroslava Glaserova: "Findings From Analysis of Differences in Agricultural Enterprise Performance"]

[Text] In 1983 an analysis was conducted of differences in the performance of agricultural enterprises operating under comparable conditions in the years 1978-1982 throughout the system of state statistical agencies, under the methodological direction of the Federal Statistical Office [FSU]. The common basis of the analysis, which was designed by the division of agricultural, forestry and water management statistics of the FSU, in cooperation with the appropriate divisions of the Czech and Slovak Statistical Offices and selected regional administrations and district organizations of both the Czech and Slovak Statistical Offices, and which had been discussed within the FSU, was published in Information Bulletin No 164 of 1983.

The following statistical techniques were used to analyze these differences:

- a) the classification of agricultural enterprises by aggregate and individual indicators of managerial performance, and the compilation of frequency distribution tables;
- b) the calculation of a coefficient of variation as an indicator of variability, making it possible to evaluate the degree of differentiation--the coefficient of variation was calculated for a broad range of categories to make it feasible to evaluate enterprise differences from more than one perspective;
- c) techniques of multiple regression and correlation analysis to evaluate the impact of certain quantifiable factors on the intensity of agricultural production and special calculations based on a multiple regression model for evaluating enterprises according to their utilization of production factors.

The newly utilized technique of evaluating enterprises according to their utilization of production factors is based on a multiple regression model in which figures representing the basic factors of production are treated as independent variables  $x_1$  through  $x_5$ , with an aggregate indicator of agricultural production intensity represented by the dependent variable  $y$ . The values of the dependent variable calculated for individual enterprises, i.e., "theoretical" values  $y_v$ , represent for a given set of enterprises the results achieved given an average level of utilization of production factors  $x_1$  through  $x_5$ .

A comparison of the actual value of the dependent variable  $y$  with the calculated value  $y_v$  can aid in evaluating the level of utilization of the monitored production conditions (factors) in a given enterprise. This comparison can be made by computing the ratio  $y/y_v$ . If the value of this ratio is greater than 1 the enterprise is using the production factors in question more effectively than the mean for the sample of enterprises being studied, with the opposite being true if the value is less than 1.

The value of the ratio  $y/y_v$  depends on the impact of factors other than those included in the regression model. Because the regression model included basic economic factors and takes into account the impact of natural conditions, it may be assumed that these other unconsidered factors relate mostly to subjective considerations the impact of which is not easy to quantify (other factors are at work here as well, such as production objectives).

An analysis based on the ratio  $y/y_v$  may be used as one of the criteria supplementing the evaluation of enterprises according to their economic performance that is normally conducted. Those enterprises with low values of this ratio merit special attention because this usually means that the way to increase production is to utilize existing capital assets better without making additional investments.

The technique of evaluating enterprises based on their utilization of production factors on the basis of a multiple regression model was developed and tested by the FSU in cooperation with the Statistics Department of the Economics College in Prague. It has been recommended for use mainly to analyze the differentiation conducted by oblast agencies of the state statistical office.

The necessary calculations for individual JZD's, just as other basic numerical documentation for analyzing differentiation, have been centrally processed by a computer and distributed to oblast statistical agencies.

Here we will present some of the main analytical findings from the differentiation study conducted by the FSU based on nationwide results. (The analysis was published in "Reports and Analyses" file no 104/84-83, serial no 1, in January 1984).

There are significant differences in the intensity of agricultural production among agricultural enterprises operating under roughly comparable conditions, i.e., in the same production region.<sup>1</sup> For instance, in the potato growing regions of the CSSR in 1982 3.6 percent of all JZD's had a gross agricultural product [HGP] per hectare of agricultural land of less than Kcs 8,000 (in constant 1980 prices), with 9.9 percent achieving Kcs 8-11,000 HGP per hectare. A majority of cooperatives (67.5 percent) achieved Kcs 11-17,000 HGP per hectare, 15.9 percent had HGP of Kcs 17-20,000 per hectare, 2.0 percent of the JZD's had Kcs 20-23,000 and 1.1 percent achieved HGP of more than Kcs 23,000 per hectare of agricultural land.

A similar breakdown of JZD's by level of intensity of agricultural production could also be cited for other production areas, as well as for state farms.

Every system that has been used to evaluate differences among agricultural enterprises in the past, or that will be used in the future, must recognize the existence of below-average, average and above-average enterprises. The trick is to moderate unjustified differences among enterprises operating under roughly identical natural conditions, and primarily to assure an ongoing increase in the overall intensity of agricultural production. This means that particularly in cases of lagging enterprises the reasons for the lag must be eliminated, and the potential that exists for improving enterprise operations mobilized in the interest of achieving results that might be achieved by a neighboring enterprise operating under roughly the same natural conditions but which is recording much better performance figures.

In recent years party and administrative agencies have adopted measures aimed at rapidly increasing production intensity at the most backward enterprises so as to moderate interenterprise differentiation.<sup>2</sup>

The analysis conducted by the FSU has shown that these measures have not as yet had a measureable impact on the level of differentiation nationwide in agricultural production intensity. Positive changes in terms of numbers of JZD's moving into higher HZP per hectare groupings have occurred mainly in mountainous production regions, where the number of enterprises in the group of the most backward (i.e., cooperatives with less than Kcs 5,000 HZP per hectare) has declined from 22.7 percent of total JZD's in 1980<sup>3</sup> to 13 percent of the total in 1982. This relatively favorable development in the division of JZD's by HZP per hectare figures in mountain regions is related to an overall increase in intensity of agricultural production in this area of almost 8 percent in comparison with 1980 (the average increase for all JZD's in HZP per hectare for the same period was roughly 1 percent). More than in other production areas the increase in HZP per hectare in mountain regions resulted from the high level of growth of gross plant production per hectare (up 16 percent since 1980).

Differences between JZD's in HZP per hectare in comparison with 1980 moderated somewhat in corn growing regions, even though there was no increase in production intensity, with HZP per hectare in the corn growing regions being the same in 1982 as it had been in 1980.

In the other three production areas the differences between JZD's in comparison with 1980 remained almost unchanged.

For state farms, the development and division of enterprises by intensity of production in comparison with 1980 was not equally favorable in all production regions. The least favorable developments in the division of state farms by HZP per hectare occurred in beet growing regions, where in 1980 37.8 percent of the state farms had per hectare yields of less than Kcs 14,000, while in 1982 this was the case for 44.5 percent of the total.

The level of differentiation in HZP per hectare among agricultural enterprises operating under approximately identical natural conditions and its change over time make it possible better to evaluate coefficients of variation:



Table 1. Evolution of differentiation in level of HZP per hectare\* by production area, expressed as variation coefficient

Variation coefficient (in percent) in these production areas						
Year	Corn	Beet	Potato	Potato/Oat	Mountain	Total
For JZD's						
1978	34.9	24.5	24.3	24.3	43.3	37.1
1979	36.9	26.6	25.6	25.0	43.7	38.3
1980	32.6	23.5	24.1	24.0	42.6	35.4
1981	32.9	24.0	22.8	23.5	37.3	32.7
1982	30.0	24.4	23.4	23.7	37.9	33.8
Difference:						
1982/1979	-4.9	-0.1	-0.9	-0.6	-5.4	-3.3
1982/1980	-2.6	+0.9	-0.7	-0.3	-4.7	-1.6
For state farms						
1978	29.7	20.1		32.4	36.4	38.5
1979	34.3	19.6	18.0	34.3	32.7	39.0
1980	34.5	18.2	18.8	31.7	28.9	37.1
1981	33.3	18.2	16.1	32.3	27.2	34.3
1982	35.7	21.6	15.8	30.2	29.1	35.5
Difference:						
1982/1978	+6.0	+1.5		-2.2	-7.3	-3.0
1982/1980	+1.2	+3.4	-3.0	-1.5	+0.2	-1.6

\*until 1979 HZP in constant 1967 prices; since 1980 in constant 1980 prices.

Even though the JZD's in mountain regions have shown a relatively significant positive trend in terms of movement from lower groups to groups with higher HZP per hectare, it is precisely in the mountainous regions that JZD's continue to show the greatest interenterprise differentiation. At the same time, the decline of the variation coefficient in this area over the past 2 years by 4.7 points represents the greatest level of moderation of any of the production areas.

Differences in HZP per hectare have also occurred at JZD's in corn growing regions. In the final three production areas differences between JZD's, expressed as a coefficient of variation, have remained practically unchanged since 1978 and 1980.

For state farms the greatest differences continue to be in the corn growing regions. The least favorable developments in the intensity of agricultural production in the past 2 years have been in beet growing regions, where the HZP

per hectare has declined by 4.4 percent at the same time that differentiation between state farms in beet growing regions has appeared to widen (the coefficient of variation has increased in this area over the past 2 years by 3.4 points, which is relatively speaking the most of all production areas). At state farms in mountain regions, where there were the greatest intensity gains in production over the past 2 years (by 6.5 percent since 1980), the degree of differentiation between enterprises has remained roughly the same.

The relatively high coefficients of variation (expressing the difference in HZP per hectare yields) for agricultural enterprises in individual production regions of the CSSR have been to a large extent influenced by differing levels of production intensity between the CSR and SSR.

JZD's and state farms in the SSR achieve lower HZP per hectare yields than those in the CSR in every production region. For instance, in 1982 JZD's in the SSR in corn growing regions achieved 82.1 percent of the intensity of those in the CSR, in beet regions 73.4 percent, in potato regions 77.0 percent, in potato/oat regions 69.9 percent, and in mountain regions only 60.4 percent. This has to some extent been influenced by the larger percentage of soil in foothill regions in most of the production areas of the SSR, a situation that is evident in the substantially lower level of tilling in both sectors in all production regions, with the exception of corn growing regions, at JZD's (the percentage of tilling at JZD's in 1982 in the beet growing regions of the SSR was 73.6 percent, but 90.3 percent in the CSR, and 53.5 percent in the potato growing regions of the SSR but 80.6 percent in the CSR).

Comparing the variability among enterprises in the HZP per hectare indicator within the national republics, it is evident that coefficients of variation are substantially higher in the SSR than the CSR in all production regions.

Table 2. Level of differentiation in HZP per hectare in 1982 in JZD's in CSR and SSR

Coefficient of variation in percent by production region						
<u>Territory</u>	<u>Corn</u>	<u>Beet</u>	<u>Potato</u>	<u>Potato/Oat</u>	<u>Mountain</u>	<u>Total</u>
CSR	18.5	21.5	19.0	17.1	18.0	25.4
SSR	30.5	26.2	30.3	29.1	37.4	45.2

The evolution of differences between agricultural enterprises in HZP per hectare has been affected nationwide by the development of differentiation in the specific results of plant and livestock production, which give the greatest weight to extreme results. In terms of the degree of interenterprise differentiation, the most stable sector of plant production is grain production, with this being true in all production regions. The degree of variability of per hectare grain yields has not only been relatively the lowest of all agricultural crops (in 1982 the coefficient of variation in specific production regions for JZD's fluctuated between 17 and 22 percent, and at state farms between 15 and 20 percent), but also fluctuates the least from year to year. Favorable trends

in this area include growing sophistication of mass production equipment used in the raising of grains, improvements in the strains that are planted, i.e., a greater emphasis on wheat and barley, and the expanded use of more productive cultivars.

Larger differences in per hectare yields persist among those agricultural enterprises engaged in raising potatoes (with the exception of early varieties): the coefficient of variation in 1982 was 22-29 percent (it was significantly higher than this only at JZD's in the corn growing regions, where however only 29 JZD's grow potatoes). Still greater differences in per hectare yields exist for agricultural enterprises raising hay from perennial fodder crops on arable land and from permanent meadows.

The relatively greater difference between enterprise per hectare yields in 1982 in comparison with the performance of previous years can in part be accounted for in some cases by sharply different weather conditions in 1982.

Of all areas of livestock raising, swine raising seems to be the most stable, based on the degree of differentiation between enterprises, in part because of the introduction of mass production equipment in 1982. In 1982 the coefficient of variation of weight gain for swine in feedlots at JZD's fluctuated between 14 and 15 percent, and between 10 and 16 percent on state farms. Larger interenterprise differences exist for feedlot cattle, not only in terms of weight gain per head per day but above all in terms of beef production per unit of agricultural land. The coefficient of variation for JZD's in this area was substantially above 38 percent, while at state farms it was uniformly in the vicinity of 30 percent, except for those in potato raising regions. Different densities of cattle per 100 hectares of land influence this figure. The greatest interenterprise differentiation in beef production per hectare of agricultural land continues to be in mountainous regions, in which the coefficient of variation for JZD's fluctuates in the vicinity of 50 percent, while for state farms in mountain regions it fluctuates around 37 percent. In most production areas (beet, potato and potato/oat regions) the differentiation among JZD's in this regard has even shown an increasing trend over the past 5 years, clearly in part as a result of changes in the structure of economic animal herds in the direction of increased beef production and decreased pork production.

The gradual elimination of differences, above all in specific results of plant and livestock production by increasing performance in below-average enterprises to the level of the mean, and that of average enterprises to the level of the above-average, can contribute to an overall increase in the intensity and efficiency of agricultural production.

Differences in the intensity of agricultural production among enterprises are reflected as well in differences in financial results, which are also directly influenced by changes in external economic conditions (in prices of agricultural inputs, in procurement prices for agricultural output, in supplementary pricing, and other economic mechanisms).

The evolution of interenterprise differentiation in financial results has been influenced by the overall evolution of the financial performance of agricultural enterprises, for which the years 1975-1981 were characterized by a deterioration of their cost structures, a decline in profit margins at JZD's, and increasing losses at state farms, with a resulting decline in return on investment in both sectors. This undesirable trend has been especially evident in years when poor weather conditions have led to sharp reductions in HZP (e.g., 1976, 1979, and 1981). Positive changes were evident in the performance figures for agricultural enterprises in 1982 as a result of improved production results and modifications in the economic mechanisms of agricultural management.

The deteriorating cost structure of agricultural enterprises has resulted primarily from sharply increasing material costs. This has resulted from the intensification of agricultural production and the substitution of equipment and services for human labor, the former being provided to agricultural enterprises from outside organizations. Even though the exodus of the work force from agriculture has moderated in recent years, costs of the new equipment and services have outpaced the increased revenues from intensification. The increase in material costs has been especially evident in the impact of prices and also in the inefficient allocation of resources in some enterprises.

The evolution of the ratio of costs to output has been influenced by modifications in the economic mechanisms of agricultural management of 1980 and 1982, which also had an impact on interenterprise differentiation in economic results. Strengthening the economic position of state farms has served to bring their cost structures and profitability figures in line with those of JZD's. In 1980 JZD's recorded a 9.52 percent return on investment, while state farms recorded only 1.59 percent, a difference of 7.93 points; in 1982 return on investment at JZD's averaged 9.77 percent, while that of state farms had increased to 5.04 percent, a reduction in the differential of 4.73 points.

In line with the objectives of the measures that were implemented with regard to economic mechanisms, differences in cost structures and profitability among enterprises operating in differing production regions moderated somewhat--mainly as a result of positive trends in the results of enterprises located in inferior natural conditions.



Table 3. Evolution of cost structures and profitability by production region

Indicator	Period	Production region					
		Corn	Beet	Potato	Potato/ Oat	Moun- tain	Total
For JZD's							
Costs per Kcs 100 of output (including extraordinary yields) in Kcs	1982	88.90	89.51	93.51	90.89	92.70	91.08
	difference:						
	1982/78	+1.48	+1.45	+1.96	+0.28	-4.40	+1.10
	1982/80	+1.15	-0.9	-0.02	-2.63	-2.70	-0.25
Return on investment (in percent)	1982	12.56	11.72	6.94	9.90	7.45	9.77
	difference:						
	1982/78	-1.83	-1.86	-2.29	-0.46	+4.46	-1.40
	1982/80	-1.40	+0.14	+0.03	+2.98	+2.63	+0.25
For state farms							
Costs per Kcs 100 of output (including extraordinary yields) in Kcs	1982	93.56	97.45	95.58	95.68	93.54	95.21
	difference:						
	1982/78	-1.91	-2.86	-6.30	-9.24	-11.24	-6.37
	1982/80	+0.93	-4.06	-1.20	-4.84	-6.18	-3.23
Return on investment (in percent)	1982	6.88	2.62	4.62	4.52	6.91	5.04
	difference:						
	1982/78	+1.51	+2.93	+6.46	+9.21	+11.41	+6.60
	1982/80	-1.08	+4.10	+1.30	+5.04	+6.67	+3.45

The difference between the highest value of costs per Kcs 100 of output for JZD's in mountain areas and its lowest level in corn growing areas declined from Kcs 9.68 in 1978 to Kcs 7.65 in 1980 to Kcs 3.80 in 1982. For state farms as well interregional cost differences moderated during this period. The highest costs for the past 3 years have been recorded by state farms in beet growing regions.

JZD profitability has increased since 1978 only in the mountain regions, while it has declined in all other regions. In comparison with 1980 the poorest performance in the evolution of JZD profitability was in those JZD's operating in potato/oat and mountain regions, largely as a result of significant modifications in differentiation payments and other modifications of economic mechanisms designed to stimulate increased cattle production. The difference in the percentage rate of return between cooperatives operating in corn and in mountain regions was 11.40 points in 1978 (14.39 percent in corn growing regions and 2.99 percent in mountain regions), while in 1980 it had declined to 9.14 percentage points (13.96 percent in corn growing regions and 4.82 percent in

mountain regions), and to 5.11 points by 1982 (12.56 percent in corn growing regions and 7.45 percent in mountain regions). The difference between corn growing regions and potato growing regions with the poorest performance was 5.62 points in 1982.

For state farms, 1982 saw an improvement in the profitability of all production regions over that of 1978, with the greatest increases being recorded by the mountain and potato/oat regions. In 1982 the highest profitability levels were recorded by state farms operating in mountain regions (6.91 percent), and the lowest by state farms operating in beet growing regions (2.62 percent). The difference between the highest and lowest figures has declined from 10.07 points in 1978 to 4.29 points in 1982.

Interenterprise differentiation in costs per Kcs 100 of output was moderately lower in 1982 than in 1978 throughout the CSSR in both sectors and in all production regions, with the exception of state farms in mountain regions, where it remained nearly constant.

In comparison with 1978 the total number of enterprises in all production regions in the group with the lowest costs per Kcs 100 of output, i.e., Kcs 84 or less, declined from 21.6 percent of all JZD's in 1978 to 15.9 percent in 1982, which is roughly equivalent to the situation in 1980. This group is relatively unimportant for state farms because it included in 1978 only three state farms (1.9 percent), two state farms in 1980 (1.2 percent) and only one state farm in 1982 (0.6 percent).

Table 4. Evolution in cost level differentiation per Kcs 100 of output (including extraordinary yields)

Coefficient of variation in percent in following production regions						
<u>Year</u>	<u>Corn</u>	<u>Beet</u>	<u>Potato</u>	<u>Potato/Oat</u>	<u>Mountain</u>	<u>Total</u>
For JZD's						
1978	10.7	10.6	9.7	9.3	14.7	11.4
1979	14.5	12.1	11.8	12.0	14.2	13.1
1980	10.7	8.6	7.6	7.8	11.3	9.4
1981	11.8	8.9	7.8	8.6	11.8	9.5
1982	9.3	9.3	8.3	7.7	10.2	9.1
difference:						
1982/78	-1.4	-1.3	-1.4	-1.6	-4.5	-2.3
1982/80	-1.4	+0.7	+0.7	-0.1	-1.1	-0.3
For state farms						
1978	9.7	7.6	8.7	9.5	10.3	10.1
1979	12.4	9.2	9.4	15.8	19.8	15.1
1980	10.0	8.0	5.7	9.4	12.0	9.7
1981	11.1	8.3	5.8	11.6	10.9	9.9
1982	7.8	6.5	5.8	7.0	10.9	7.7

difference:

1982/78	-1.9	-1.1	-2.9	-2.5	+0.6	-2.4
1982/80	-2.2	-1.5	+0.1	-2.4	-1.1	-2.0

It is considered a positive development that at the same time there has been a reduction of enterprises with cost structures of over Kcs 105 per Kcs 100 of output. For JZD's the percentage of such enterprises has declined from 9.2 percent in 1978 to 7.7 percent in 1980 and 6.7 percent in 1982. The number of state farms with excessive costs has declined especially sharply from 38.5 percent in 1978 to 18.6 percent in 1980 to 12.0 percent of the total in 1982.

Differences in costs among enterprises exhibited some fluctuations in individual years of the period in question, 1978-1982. The differences were especially pronounced in 1979, a year in which costs increased as well. Cost differences then moderated in 1980, when costs declined. Since 1980 differences in costs in specific years have been more stable.

The evolution of interenterprise cost differences for JZD's since 1978 has differed in the CSR and SSR. For JZD's in the SSR, which had significantly higher cost differentials prior to 1979, there has been a clearly declining trend, despite fluctuations in individual years, in this differentiation in all production regions (with the exception of beet production regions in 1982). The mean coefficient of variation declined from 14.5 percent in 1978 to 11.2 percent in 1980 and 9.6 percent in 1982. In the CSR cost differences between JZD's have shown a moderately declining trend only in the mountain regions, while the differences significantly increased in 1982 in corn and potato growing regions and to a lesser extent in beet growing regions as well. The mean coefficient of variation of costs of JZD's in the CSR has increased from 7.5 percent in 1978 to 7.8 percent in 1980 to 8.6 percent in 1982. As of 1982, therefore, the level of differentiation between the CSR and the SSR had declined.

Differences in costs between enterprises are reflected in differences in achieved profits per hectare and achieved return on investment.

The substantial increase in the profits of state farms in 1982 was accompanied by a favorable change in the distribution of state farms by profits per hectare and by achieved return on investment. The number of state farms operated at a loss decreased from 54.7 percent of the total in 1978 to 21.0 percent in 1982. This was true of all production regions, but especially of mountain and potato/oat regions. These changes resulted not only from improved production but also from modifications in economic mechanisms.

Similar changes are evident in the distribution of state farms by achieved return on investment. Even though in recent years and especially in 1982 there was a significant improvement in the return on investment at state farms, there is still a significant portion of these operations with low returns. It is estimated that 20 percent are still operating at a loss and that roughly 25 percent have a return on investment of less than 5 percent.

For JZD's as well the increase in profits in 1982 was accompanied by a moderate decline in the number of cooperatives operating at a loss from 14.3 percent of the total in 1978 to 12.8 percent of the total in 1982. The area of greatest improvement was the mountain regions, while the number of JZD's operating at a loss increased in 1982 in potato growing regions. All production regions in 1982 saw an increase in the number of cooperatives over that of 1978 with more than Kcs 3,000 per hectare of profits, from 17.2 percent of the total to 22.8 percent. The return on investment at JZD's is declining over the long term, a trend which even the positive results in the mountain and potato/oat regions in 1982 could not alter significantly. The number of JZD's with the highest return on investment--over 15 percent--declined in 1982 in all production regions but the mountain from 35.5 percent of the total to 27.5 percent of the total.<sup>4</sup>

The achievement of a sufficiently high return on investment is a precondition for obtaining the resources to expand capital replacement. Differences in the assurance of resources for expanded capital replacement may be deduced from differences in total allocations to enterprise earnings per hectare. The coefficient of variation of this figure, which is several times higher than the coefficient of variation for HZP per hectare and for costs, attests to the fact that interenterprise differences in agricultural production intensity and in costs are much more significantly reflected in differences in the size of allocations to enterprise earnings per hectare and therefore also in differences in the magnitude of resources available for expanded capital replacement. This is an important fact especially for enterprises that are being managed less intensively, because for them increasing the intensity of agricultural production often means increasing inputs as well.

Differences in the amount of allocations to retained earnings per hectare have fluctuated sharply in specific years in connection with achieved results. The significant reduction in the differences in this figure at state farms between 1980 and 1982 was the result in all production regions above all of external measures aimed at strengthening the economic positions of the state farms. The favorable impact of measures related to economic mechanisms was evident in a moderation of the differences in the amount of the allocations to earnings between JZD's in mountain and those in potato/oat regions.

The economic performance of JZD's have been favorably affected by associated production, which is very important for strengthening the income position of cooperatives, especially in inferior natural conditions. The scope of associated production varies greatly among JZD's, which enhances the economic differences between enterprises. State farms, especially those in mountain regions, have not yet developed nonagricultural activity to a satisfactory level.

Differences in the intensity of agricultural production, as reflected in the financial results of enterprises operating in the same production region, are affected by a number of reasons of an objective and a subjective character. The objective factors include primarily differences in natural conditions that exist even between enterprises from the same production zone. Partially objective reasons include economic factors such as the available capital stock, working capital, and the work force. What is critical is not only the scope



of these factors, but also their qualitative level, such as the technical sophistication of the capital stock, the age or qualification structure of the work force. The quantitative and qualitative aspects of these economic factors is, however, for the most part influenced by the overall quality of management of the enterprise, which is influenced most critically, as detailed analysis and research at individual JZD's has shown, by the sophistication of administrative and organizational work. These qualitative factors, to be sure, cannot be quantitatively expressed and measured, but are rather evident in the utilization and efficiency of production resources and labor, i.e., the overall utilization of a given production environment.

This is confirmed further by data gathered for a group of JZD's with differing levels of HZP per hectare, which indicates that groups of enterprises which achieve higher HZP per hectare are almost always those which are better equipped with labor and capital assets, and which expend greater amounts of resources per hectare of agricultural land. Moreover, those enterprises with a greater intensity of agricultural production make better use on the whole of all these basic factors in production and display a higher production efficiency for capital stock and work force, mainly as a result of more highly qualified administrative and organizational work and other subjective factors.

For backward enterprises it is usually a matter of developing the preconditions, mainly among the work force, so that the existing production resources can be used efficiently and so that there can be a guarantee that the expanded replacement of these resources will have the desired impact.

Using the technique of regression and correlation analysis the connection has been evaluated between HZP per hectare and total production per hectare on the basic factors of production. To define this relationship multiple regression models were calculated on the basis of data from individual JZD's for 1982 in specific production regions. These models contained five factors as independent variables: the number of employees per 100 hectares, capital stock and its per hectare acquisition cost, material cost (excluding depreciation) per hectare, gross agricultural production as a percentage of the overall, and imprecise indicator of natural conditions.

The coefficient of correlation for the connection between HZP per hectare and these factors indicates that the relationship is close. It may be deduced that differing levels of the factors under consideration account for about 60 percent of the differences in HZP per hectare between individual JZD's in potato/oat regions and about 88 percent of differences in corn growing regions. Total per hectare production is still more closely tied to these factors, with changes in these factors accounting for about 81 percent of any change in total output in beet growing regions and about 93 percent of any such changes in mountain regions.

Based on multiple regression functions special calculations were performed which make it possible to evaluate individual JZD's according to their degree of utilization of factors of production, and which serve as supplementary criteria for evaluating individual enterprises above all by middle management. This technique of evaluation has been used in analyses of regional statistical offices in krajs and okreses.

#### FOOTNOTES

1. Classification by production region makes it possible to differentiate only basic differences in natural conditions, even though certain differences exist within production regions. A production region always includes the entire register of individual villages. Given the current size of agricultural enterprises, most enterprises manage land that falls under the jurisdiction of two or more villages, which often fall into different production regions. In these instances an enterprise belongs to that production region which includes the greatest amount of the land which it manages. For this reason enterprises included in the same production region are not always from an identical group in terms of natural conditions.
2. A set of measures for intensifying production at long-backward agricultural enterprises and in other agricultural enterprises with below average results was approved by CSSR Government Resolution No 250/1980.
3. Comparison over a longer time period is impossible because of a shift to constant 1980 prices.
4. It can be assumed that the number of JZD's with returns on investment in excess of 15 percent will increase in 1983 when, nationwide, JZD's recorded an average 11.53 percent return, i.e., 0.38 points higher than 1978. Mean return at state farms increased in 1983 to 8.17 percent.

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CSO: 2400/200

## CZECHOSLOVAKIA

### TYPES, USES OF AGRICULTURAL EQUIPMENT DISCUSSED

Prague HOSPODARSKE NOVINY in Czech No 49, 1985 p 6

[Article by Eng Miroslav Svoboda, Federal Ministry of General Engineering: "Equipment for the Farmer"]

[Text] The program objectives established by the 16th CPCZ Congress place great emphasis on achieving maximum self-sufficiency in food production and on the related tasks for the agroindustrial complex. In line with resolutions of the highest party organs the Presidium of the Federal Government formulated at the beginning of this year a Production-Technical Strategy for Agricultural Machine Building that is designed to increase the technical-economic sophistication of agricultural equipment. CSSR Government Presidium Resolution No 49/1984 contains, in part, a Set of Measures To Assure Deliveries of Agricultural Equipment that correspond to newly designed sets of machinery.

The set of machinery for the comprehensive mechanization of Czechoslovak agriculture consists of 780 items divided into 32 machinery groups. For each machine there has been established its agricultural engineering specifications, prospective needs for the Eighth 5-Year Plan, and the strategy for making sure deliveries are made on time. Of the 780 items our sector will provide 224 with our own production capacity and handle the importing of another 187 items from the CEMA countries. Organizations of the agriculture and food sectors will produce 249 items, with the remaining 120 items being handled by branches of the Federal Ministry of Metallurgy and Heavy Engineering [FMHTS], the Federal Ministry of the Electrotechnical Industry [FMET], local industries and cooperatives. Total deliveries of machinery from the Federal Ministry of General Engineering [FMVS], which have accounted for about 56 percent of the needs of Czechoslovak agriculture during the Seventh 5-Year Plan, will increase moderately in the Eighth 5-Year Plan.

#### Soil Preparation and Planting

This area was handicapped during the Sixth 5-Year Plan by inadequate deliveries and the absence of certain machines for harrowing (disc harrows), for plowing on slopes (rotating plows), and for the working of heavy and stony soils (heavy combines, dirt clot crushers, gatherers and crushers of stone). Moreover, the mix of mould boards and plowshares was not optimal, thereby increasing the energy-intensiveness of certain soil preparation operations.

The situation has improved gradually during the current 5-year plan. The production base for this group of machines has been strengthened by the addition of the former Roudnice Machine Works and Foundry national enterprise, the Rozmítal Agro plant, and by several state tractor stations. This has set the stage for increasing the production and deliveries of a number of machines that have been in short supply. The annual production of plows will increase by more than 30 percent during this 5-year plan, the production of plows and disc harrows is being improved, and work is being done on the quality of steel for plowshares in cooperation with the metallurgical divisions of the FMHTS.

The production of universal planting machines for grains during this 5-year plan is being increased by a factor of more than 2. The innovation program for these machines is being focused on increasing machine reliability and the quality of planting, on mechanizing the filling of planting machines and reducing energy consumption. The startup of mass production of new models of planting machines is slated to begin in 1985 and to proceed gradually. Deliveries of appropriate types of stone collectors and rotating cultivators with a swath of 3 meters are being negotiated with our partners in the USSR and Poland.

#### Fertilization and Plant Protection

Mechanization for the fertilization and protection of plants has not been fully worked out as yet. There has long been a shortage of efficient self-propelled loaders to handle industrial fertilizers and cow manure. Spreaders for industrial fertilizers do not meet agricultural engineering requirements not only in terms of performance, but also in terms of evenness of spreading. One of the most important of the machines that has been requested for this area is a spreader for the supplemental fertilizing of plants during their vegetative period, and the storage facilities to support this machinery. Nor do the machines available for the application of liquid fertilizers meet their design parameters.

In view of the fact that the items which do not fully correspond to our requirements are being imported, during the first half of 1984 negotiations were opened with specialized producers to discuss improvements in technical sophistication and to start the research and development of the types of machines that are lacking. In the event that positive results do not come of this effort, the FMVS will look into the possibility of meeting these needs with its own production resources, making use of licenses if necessary. This decision has already been made regarding a tank to carry 8 to 12 tons of liquid fertilizer that will be produced by FMVS divisions beginning in 1987, and loading and unloading equipment for the warehouse storage of industrial fertilizers with a 25 ton/hour capacity and which will be produced by organizations of the agriculture and food sector.

#### Equipment for Fodder Crops

Requirements for this type of equipment have been influenced significantly by the limitations that have been placed on energy-intensive drying techniques in



favor of less energy-intensive preservation and storage of fodder crops. Equipment for the cutting and harvesting of fodder crops is produced for the most part domestically. Adapters that have been lacking for adjusting the swath of rotating machines are being developed and will be placed in mass production beginning in 1986.

A number of pieces of equipment have been developed for work on hilly terrain, including the ZTRS 310-Kabar self-propelled machine for the recultivation of meadows and pastures, a harvesting system based on the Zetor-Horal tractor with a rotating harvester, a turner, a stacker, and a collecting trailer, along with the motorized MT-8-046 harvester. Self-propelled harvest cutters will be outfitted with automated controls and protection for the cutting drum from damage by foreign objects. Other innovations include covered haylofts with handling equipment. Deliveries of previously absent stationary cutters with 50 ton per hour capacity, in which Poland has specialized, were arranged for during the coordination of plans, meaning that these machines should become available during the Eighth 5-Year Plan.

#### Growing and Harvesting of Grain

Equipment for these operations is obtained through the international division of labor, primarily through imports from the GDR and Romania. Combine harvesters from the GDR and equipment for the post-harvesting processing of grain consisting of machinery both from the CSSR and the GDR are state of the art. There are still problems with the combine harvesters we have been importing from Romania for work on hilly terrain.

There are still not enough machines available for the baling of hay into large bundles or combine harvesters with a throughput of 12-16 kilograms per second. During negotiations with our partners in CEMA we have been promised the delivery of experimental equipment for hay harvesting from the USSR that has the capability to make large square or large round bales, as well as the newly developed Soviet Don combine and the new Gloria 12M combine from Romania. Within the context of bilateral R&D cooperation we will be working with the GDR combine producer, the Fortschritt Landmaschinen combine, on the development of equipment for clearing weeds and brush.

#### Equipment for Sugar Beets

Domestically produced machinery (some under license) and machines from Yugoslavia will be available for the precise planting of sugar beets. The startup of mass production of precision planting machines in this country is slated for the beginning of the Eighth 5-Year Plan.

The current harvesting equipment for sugar beets is not completely satisfactory because it causes substantial losses and damage to the bulbs. This is especially true of the imported six-row harvesters now in use. Under an agreement between the FMVS and the Federal Ministry of Agriculture and Food, comparative tests of selected foreign harvesters were undertaken. This year an appropriate model of a license machine will be tested. By mid-1985 facilities will be available for its mass production in amounts of 250 to 300 units per year.

Over the next 2 to 3 years the imported machines will gradually be rebuilt to make them compatible with our agricultural conditions. The harvest of fodder beets on smaller plots will be handled, beginning this year, by a three-row trailer harvester produced by the Agrozet economic production unit [VHJ].

Items that are lacking, such as equipment for zone spraying and applicators of granulated pesticides, etc., will continue to be imported or developed domestically so that in the course of the upcoming 5-year plan the necessary equipment will be made available for the growing of sugar beets.

#### Raising and Harvesting Potatoes

Equipment for the planting of nonpresprouted potatoes is being provided by Prostějov Agrozet. Preparations are being made for the production of a licensed machine for the planting of presprouted potatoes. Modernized one- and two-row harvesters, including a model for harvesting early potatoes on hilly terrain, will be imported beginning in 1985 from the GDR.

The importing of mobile potato sorters with an 8 ton per hour capacity is being negotiated with Poland. During the negotiations between the working groups for economic and R&D cooperation with the GDR and Poland our delegates made clear our requirements for the increased technical sophistication of future models of the equipment imported from these two countries.

There has been no comprehensive resolution as yet of techniques for the post-harvest processing and storage of potatoes. Both the FMVS and the Federal Ministry of Agriculture and Food are working on this matter. Deliveries of the requisite equipment are to be worked out by these sectors by 1985.

#### Equipment for Corn

Equipment for implementing progressive techniques of corn cultivation are characterized by an attempt to increase the swath of the machines, integrate sets of machinery, and improve operating speeds. For these reasons it is expected that the preplanting soil preparation will gradually be handled by larger tractors utilizing appropriate implements. Difficulties with the sowing of corn, just as those with sugar beets, should be reduced by the new domestically produced precision planting machine, which has the capability of applying herbicides and pesticides to individual zones.

Corn being raised for grain will be for the most part harvested by modified combine harvesters with four- to six-row adapters from Hungary and by the specialized KSKU-6 corn harvester from the USSR. The divided corn harvest will be handled by modified combine harvesters and self-propelled SPS-35 cutters with a multiknife drum and FKA-503 adapters from Hungary.

Harvesting silage corn will be handled by self-propelled cutters produced mainly in FMVS enterprises with wide swath adapters, and by trailer cutters at smaller enterprises. The proper plowing under of the corn stubble is facilitated to a large degree by PH-2-020 disk harrows and 5 PHX 42-1-H plows which are beginning to be produced by Roudnice Agrozet.

## Agricultural Transport

The implementation program includes measures to assure transportation equipment for the changing structure of agricultural transportation with special emphasis on specialized trucks and containerized transportation systems. Tractor transportation will gradually be restricted to internal enterprise transportation.

Deliveries of transportation equipment during the current 5-year plan will reflect this trend. During the first 3 years of the Seventh 5-Year Plan 5,870 special-purpose trucks of the Agro design were delivered to our agricultural enterprises and it has been estimated that along with deliveries of 1,000 tank bodies on Tatra and Liaz chassis the requirement of the Ninth Nationwide JZD Conference will be fulfilled, namely the delivery to our agricultural sectors during this 5-year plan of 10,000 special-purpose trucks, even though the demand is greater than this. Projected deliveries of UN, UNC, UNK, and KNA self-propelled and trailer loaders have been exceeded by more than 50 percent. Deliveries have been made as well of the first 155 loaders designed to be compatible with ST180 tractors.

In line with the specifications for sets of machinery for increasing the efficiency of tractor transportation, measures are being implemented to provide deliveries of multipurpose tractor-rowed dumping trailers with capacities of 4 to 6 and 12 to 16 tons and multipurpose covered trailers with a capacity of 12 to 16 tons. Plans for the automotive transportation system include innovations in trucks used to transport concentrated fodder, bulk materials, animals, and machinery with capacities of 18 to 22 tons.

In view of the difficulties involved in the development and production of new transportation and especially cargo-carrying systems, it is essential to specify clearly the agricultural and zootechnical requirements and to identify needs so that it will be possible to make rational decisions that maximize the benefit to the national economy.

## Agricultural Tractors

The Zetor tractors produced in Brno and in Martin fully meet the requirements of our agriculture. Moreover, the outlook in terms of deliveries for the current 5-year plan is favorable. Planned tractor deliveries for the first 3 years were exceeded. So far 21,500 tractors have been delivered, with the plan calling for a total of 29,900 for the entire 5-year plan. The stage has been set, in other words, for total deliveries for the Seventh Plan to reach the original request of the agriculture and food sector, 35,000 tractors.

Ongoing attention is devoted to modernizing the product line. During this year Zetor Brno is implementing the fifth modernization of UR I tractors and at the Martin Heavy Engineering Plants they are engaged in the B modernization of the UR II tractor. These innovations are resulting in reduced standard fuel consumption, improved hydraulic performance, greater universality, and improved work ergonomics. Next year production will begin at Brno of the

Z 5011 tractor with 36.8 kilowatts of power (50k), which has been in great demand recently by farmers--in contrast with earlier years.

New generations of the UR III and UR IV tractors have been prepared for the next 5-year plan which will be fully competitive with comparable models. Progress has been hampered by the continual postponement of the tractor program in the state capital investment program, in particular delays in the construction of facilities for the production of new motors at the Brno Zbrojovka. The developmental strategy also projects the start of production of limited numbers of specialized tractors for specific production conditions.

In addition to these lines of tractors, work will continue on the production of smaller tractors and small agricultural equipment at the Prostějov, Jicin and Rožnava Agrozet plants. Annual production of smaller tractors will be increased to 5,000 in the next 5-year plan with the gradual introduction of a complete model line with four types ranging from 8 kilowatts to 20 kilowatts of power, along with a wide assortment of implements and adapters. For the MF and Terra lines of small agricultural equipment production will be increased from the current 17,000 to 25,000 units per year to a maximum of 35,000 annually during the next 5-year plan depending on market demand.

#### Cattle Breeding Equipment

Equipment for loading fodder, removing manure, and for milking has reached a satisfactory level of availability. Innovations will be focused on suspended transportation systems, increasing the operational reliability of equipment for removing manure, and on automating feeding lines. The technical development plan will include a doser of feed supplements designed for open-ended stalls.

Provisions have also been made for the complete modernization of milking equipment. Design improvements in a new milking machine in both a mobile and a piped variant have substantially increased the quality of milking. The mobile version makes it possible to pay attention to individual cows, and adjustments have been made to permit outfitting with automated accessories, depending on the needs of agricultural work. Quality improvements in equipment for cattle breeding have been enhanced by the introduction of electronic components for automating the storage of feed, milking, and control of cattle herds.

#### Mechanization in Swine Breeding

The development of systems for housing swine, in accordance with worldwide trends, has been moving toward multifloored cages which make possible the efficient mechanization and automation of necessary procedures. Feeding based on dry mixtures has been facilitated by the full mechanization of the storage, distribution and delivery of fodder, and has left room for partial automation. In this regard the equipment for the feeding of slaughter swine is quite sophisticated. It is necessary, however, to achieve a higher level of automation in programming the delivery of fodder, for recording its consumption, and in other areas. Equipment for the preparation and development of moist and liquid feeds, apparatus for cleaning wastes, and housing systems are all also quite sophisticated.



However, we do not have at our disposal the necessary technology for speeding up the transition to wet feeding and the greater utilization of alternative, nontraditional feed sources. This is primarily a question of stationary equipment for the preparation and distribution of liquid feeds by pump and piping which are essential for making the transition to liquid feeds at large farms. Likewise lacking are washing machines for root crops and crushers for granular feeds.

This equipment, under a mutual agreement with the food and agriculture sector, will either be manufactured domestically or imported during the next 5-year plan. Our sector has already begun the development of fodder carts for liquid feeds with the capability for dumping into raised stalls, with the GDR serving as the source of imports for test samples of stationary equipment for preparing and distributing liquid feeds, washing machines for root crops, and crushers for granular feeds.

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CSO: 2400/205

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FINANCIAL POLICY OF FUTURE YEARS OUTLINED BY LEER

Prague PLANOVANE HOSPODARSTVI in Czech No 10, 1985 pp 1-10

[Article by Eng Leopold Leer, SCc, minister of finances of the CSSR and chairman of the Governmental Planned Economic Management Committee: "Financial Policy for Future Years"]

[Text] Our financial policy proceeds from our party's general economic policies and is focused on the implementation of decisions articulated by the 16th Congress of the CPCZ and its strategic platform--to improve efficiency and quality and in particular to enforce intensification of our national economy. In this direction its principles are set and practically implemented; they are targeted above all at:

--the creation of financial groundwork for the implementation of material objectives of the plan and of structural changes indispensable for the enforcement and gradual restoration of their balance;

--consolidation of the fiscal and financial balance and the achievement of a balanced state budget.

A substantial part of the measures of our financial policy and the effect of financial mechanisms coordinated with the development of khozraschet are centered in the economic area, especially in the accumulation and use of financial resources, which also is the purpose of the implementation of the Set of Measures for Improving the Planned Management System of the National Economy in the financial area. Dynamic effects of financial policies and their mechanisms, exertion of economic pressures aimed at efficiency and intensification are now--and will be in the future--promoted by the following fundamental principles of financial policy:

--to finance the needs in the enterprise economic sphere mainly from the internal financial resources of the VHI's [economic production units] and enterprises, particularly with a higher task of the profits;

--higher profits will be derived to a decisive extent by reducing the costs and by the constantly growing role of R&D contributions and of the effects resulting from better utilization of capital assets, stocks and new investments;

--to exert economic pressures and to stimulate interest in better utilization of capital assets and stocks, and to render new investments more efficient; above all, to promote fast returns on investments, modernization and reconstruction;

--by means of a flexible and economically efficient financing system to accelerate the R&D process up to the introduction of its achievements in production, and to encourage the expansion of R&D contributions, to study them and to exert economic pressures and stimulate interest in that direction;

--to foster economic interest of production and foreign trade in the growth of efficient exports and in export efficiency in general;

--to enforce good management in every sector of our economy and in all public life; to help create a climate of good stewardship.

These basic directions for the effect of our financial policy, enforced in the current 5-year plan, are completely consistent with its objectives for the Eighth 5-Year Plan. They are newly enriched by additional factors derived from the experience of the past years and by new, even more challenging tasks facing our national economy.

Excellent achievements have been noted in 1982 and 1983 in the area of the accumulation of financial resources, particularly in reduced costs, mainly of materials, and in higher profits. In essence this advantageous development continued in the first 6 months of this year, primarily in the reduction of total costs, which in semiannual comparison amounted to 1 percent. Material and wage expenditures decreased at approximately the same rate. Financial costs declined by 1.85 percent.

The 1 percent reduction of total costs for the first 6 months of 1984 is unusually high. Such good results had never been achieved in any of the preceding 5-year plans, as the following data can confirm: in the Sixth 5-Year Plan the average reduction of total costs was 0.36 percent, in 1981 0.79 percent, in 1982 0.32 percent, and in 1983 0.82 percent.

The achievements of the first 6 months are not advantageous in terms of the costs alone. In a survey of the main proportions of financial management the favorable development of profits appears in the forefront--even of actual profits (conversion indicator in which profits are increased by taxes on receipts and costs, and reduced by grants on receipts and costs and by expenditures from the special compensation fund). These actual profits were up 15.1 percent over the same period of 1983.

The index of increase in profits from our domestic economy for the first 6 months of this year amounted to 114.6 percent, while the average for the Sixth 5-Year Plan represented 108.6 percent, for 1981 110.7 percent, for 1982 104.2 percent, and for 1983 111.6 percent; thus, it was significantly higher than the plan had projected for all of 1984. This could be done because of the reduced costs which shared 75.4 percent and because of higher outputs which shared 24.6 percent--in other words, of the 14.6 percent relative increase of profits, 3.6 percent were derived from higher outputs and 11 percent from semiannual cost reductions.

However, the generally good achievements in individual VHJ's and enterprises have been very irregular, because a considerable part of enterprises failed to fulfill their planned tasks. Thus, for example, 52 percent of enterprises in our industry and 65.5 percent of construction enterprises failed to meet all indicators mandatory for the assessment of their fulfillment of the plan. Furthermore, the fulfillment of this or that enterprise's or VHJ's obligations to our society--i.e., of the final results of its management--continues to be assessed and evaluated unsatisfactorily. Shortcomings in the use of resources continue, particularly in investments (underutilization of the existing capital assets, inefficiency of new investments, a high rate of unfinished construction projects, a failure to meet the planned parameters, the escalating budgeted prices), in inadequate R&D contributions, excessive stockpiles, including those with no turnover (although the turnover of stockpiles in industry and construction accelerated by 3.5 days over the first 6 months), and in inefficiency in the sector of foreign relations.

For that reason financial policies for the future years must emphasize far more:

--the actual final achievements and contributions to our society; support for progressive enterprises and VHJ's, and greater economic pressures on enterprises and VHJ's with unsatisfactory progress and extensive unused assets;

--further strengthening of the khozraschet in the entire financial management system, with stress on the responsibility for efficient utilization of the whole potential of the VHJ's and enterprises.

Those are the perspectives from which the main principles of our financial policy for the Eighth 5-Year Plan have evolved; they are intertwined with the work on a long-range projection of Czechoslovak national economic development until 1995 and, specifically, of the Eighth 5-Year Plan. The principles of our financial policy for future years are tightly dovetailed with the Main Directions for the Further Development of the Set of Measures for Improving the Planned Management System of National Economy After 1985. This has generated a dynamic effect on the part of our financial policy on the solution of the main material problems of our national economy in future years, so that it may intensively affect the growth of the final contributions of our economy to our society.

As regards the current situation of operations, the fundamental principles of our financial policy for the Eighth 5-Year Plan may be characterized approximately as follows:

--They will proceed from the principle of a long-term character of the stipulated tasks and conditions enforced when implementing the financial policy; work standards with long-range application will be targeted at that particular goal.

--In general, the currently valid system of payments to the state budget will be retained. In case of more essential changes in other economic mechanisms, which will have a more significant impact on the financial (revenue) situation of economic organizations, the tax rates will be appropriately adjusted or surtaxes approved by the government will be enforced.



--The needs of organizations continue to be financed on a priority basis from their own resources. Investment grants from the state budget will be allocated only in exceptional instances for specific limited purposes and for selected priority-type investment programs. Depreciations will remain on a priority basis at the disposal of the enterprise sphere to finance simple replacement processes according to objectivized principles; regulations for redistribution of depreciations will be newly amended.

--Noninvestment grants from the state budget will be aimed at intensive implementation and objectivization of the planned proportions; grants to cover deficiencies in price relations will be curtailed and their specific purpose will be strengthened.

--Tasks of the financial plan will be specified for the VHJ's and enterprises in such a manner that organizations with low efficiency according to economic indicators be assigned higher tasks in qualitative indicators.

--The system of financial indicators which comprehensively characterize the societywide financial contributions of the enterprises, VHJ's and branches and indicators denoting this contribution, and financial efficiency as criteria for economic decisionmaking and for the deployment of resources for economic development, will be more consistently enforced. It will be mandatory to bring up profitability and other qualitative indicators in organizations of individual sectors and branches on the entire territory of our republic gradually to the level of the advanced organizations. Pressures on a controlled development of the production and administrative costs will be increased.

--The financial economic mechanisms of foreign trade will be focused on raising economic pressures and on interest in the growth of efficiency in foreign economic relations. Foreign prices obtained for exports will help directly confront the efficiency of our domestic production with the efficiency of foreign manufacturers. Foreign prices for exports (as well as for imports) will be reflected in economic achievements of manufacturing organizations engaged in foreign trade. There will be more emphasis on closer unity of organizations of production and of foreign trade in exports and imports, and unified common criteria of material incentives for their employees will be stipulated.

--The active function of sales taxes will be enforced in order to improve the relations between the growth of deliveries for consumer goods inventory in wholesale and retail prices. Certain adjustments will be made in the structure of sales tax in order to render it more rational and simple.

--In the framework of budgetary expenditures for R&D, those tasks will be financed that are of decisive importance for the plan for the further socio-economic development and that are part of the state goal-oriented programs and the state R&D programs. Efficient R&D directions will receive financial support and tasks for the results of which there is no guarantee of practical application will not be financed. Contributions from implemented R&D achievements will be thoroughly incorporated in the financial plans of individual users.

--Financial support will be provided for tasks related to environmental care and to the removal of harmful consequences of concentrated economic operations, including their impact on people's health. The efficiency of financial-economic mechanisms aimed at environmental protection will be improved. Their ecological consequences will be assessed in all economic programs; calculations of efficiency will also assess the costs stemming from air and water pollution and other environmental degradation.

--Next to the fulfillment of the tasks of the plan, more stress will be placed in annual analyses of management and in the conclusion of its achievements on the importance of dynamic efficiency growth and on the standard of management. Part of the assessment will deal with the development of final financial contributions of economic organizations to our society and on the factors influencing it. The level of efficiency will also be reviewed according to the analysis of competitiveness in world markets, not only in terms of technical-economic parameters of the products and services but also in terms of the price earned.

--The point of departure will be the premise that the enforcement of good stewardship is a continuous process. Therefore, the existing program of economic measures will be updated according to the new conditions of the Eighth 5-Year Plan.

--In the interest of a harmonious development of territorial units the financial-economic relations between the national committees and the centrally administered organizations will be consolidated. Unification of financial funds and operations between the national committees and centrally administered organization will be promoted.

Along with the application of all the above-mentioned principles, financial policies will be enforced in the coming years as the main way to bear more effective financial pressure on intensified implementation and rating of the final results of the management in every VHJ and enterprise and their consequent contribution to our society. For that purpose, appropriate methods are being prepared; the necessary calculations have been completed according to individual VHJ's and enterprises. It is presumed that these data will be used by the sectors of the ministry to stipulate the efficiency tasks within the plan as well as to rate the operations of the VHJ's and enterprises, to determine the wages, investments, foreign exchange funds, etc. This represents a great impact on the current practice in rating the earned profits, the relations to the state budget, and thus also the quality of labor and the results of the management in individual VHJ's and enterprises.

In the current practice of economic organizations labor efficiency is measured according to a system of indicators derived partly from their achieved accounted profits, or, as the case may be, from other produced assets. Actual achievements are compared with the plan, which is the basis for the assessments (ratings) of the achievements of enterprises in their economic activities. However, the confirmed data are influenced by various economic factors, particularly grants, mechanisms of foreign trade, redistribution, etc., which as a rule have a balancing effect and are expressed in such a way that enterprises get a good rating on the whole if they have fulfilled their planned tasks,

even if their operations have unfavorably influenced the overall effect achieved in national economy.

The above-mentioned process may generate a certain stability, but it does not reveal the actual economic contribution of individual enterprises, VHL's and economic ministries to the accumulation of societywide resources, or, as the case may be, the volume of societywide resources drawn [by individual enterprises, VHL's and economic ministries]. By the same token, accounting records in particular are focused on data which make it possible to control the fulfillment of the plan. That control is also connected with a system of material incentives.

On the other hand, accounting records reveal economic contributions on the basis of another configuration of the studied and documented data, which have been stabilized already for several years. The above-mentioned contributions may be required and determined in various forms and, depending on the interest, they include in the stipulated calculation some--or even all--khozraschet factors. Thus, indicators expressing the results of the operations of enterprises, VHL's, and branches may be obtained without the effects of the economic mechanisms of foreign trade, the financial mechanisms of the domestic economy, chronological differentiation of costs and profits up to the determination of the "total financial contribution" and the "resultant (khozraschet) contribution for society."

More information may be obtained from their determination and comparison over several years. This new approach must now be fully applied.

Because the indicators thus calculated proceed from accounting--i.e., from actual data--they offer a realistic view of management in prices, methods and organization applicable in a given period. The results also reflect to some degree the effect of prices on economic results expressed as economic contributions. A further direction for the use of the data thus obtained is based on the comparison of the effects derived for the national economy from economic contributions among enterprises, the possibility of determining their sequence for comparable or related operations, of following their development, etc.

The obtained results may be used to help intensify labor in the VHL's and enterprises and their management, to determine unjustifiable differences, and to assess them from the economic point of view, to eradicate them and thus to improve the overall efficiency. Such systems characterizing the final results may find broader application as a dynamic instrument to control economic processes and may be gradually applied in the preparations of the plan.

In agreement with the Main Directions for Further Development of the Set of Measures, our financial policy for the Eighth 5-Year Plan proceeds:

--from the fundamental goal, which is better planning and consolidation of the functions of the plan as the basic mechanisms of the management;

--from the necessity to interrelate the material and value criteria of the plan;

--from the need to integrate more effectively the value mechanisms of management (finances, prices, exchange rates, credits, interest, etc.) already in the process of the creation of the plan.

At the same time, our financial policy regards as a significant contribution to the effect on economic efficiency and intensification a uniformly conceived system of criteria of economic efficiency which will express the final contribution for our society (national income, adjusted value added, profits, exchange relations, etc.), which presumably will be applied already while preparing long-range projections and the Eighth 5-Year Plan.

Conditions will be offered within this framework for more efficient results of the financial plan as the basis for the implementation of financial policies in every sector.

The quality and efficiency of the financial plan provide a springboard for the successful implementation of our financial policy and for the efficiency of its mechanisms. This concerns the system of financial plans from top to bottom, primarily an upgraded dynamic role of the summary financial plan, especially when balancing the increase in material resources (social product, national income) with the development of financial resources among the population, economic organizations and in the state budget; the balance of the summary financial plan must be regarded as an important criterion when assessing the economic balance and optimization of national economic plans and their implementation.

The enterprise economic sphere is interested in turning financial plans on every level of the management into dynamic instruments affecting both the overall financial management of each VNI and enterprise as well as their overall efficiency, so that particularly during the compilation of the plan they affect every part of the plan, especially the plan for the replacement of capital assets, R&D, stockpiles, etc. In the planned accumulation of resources the financial plan must, for example, include the contributions of R&D, new investments, rationalization, and naturally, in conjunction with the accumulation of resources, after the stipulated payments to the state budget it must provide more efficiently for the financially planned needs and not as a passive reflection of individual parts of the plan. The financial plan must implement to the fullest in particular the method for the determination of the criteria of efficiency organically integrated in the plan according to the principles adopted in the Main Directions and gradually implemented in specific planning operations. The whole plan must affect the efficiency and intensification; in this respect the financial plan is its culmination. Higher efficiency and overall responsibility of the VNI's and enterprises for the accumulation of financial resources should be promoted by the principle stipulated in the Main Directions and enhancing the goal-oriented objectives of our financial policy, which presupposes that financial plans on every level of management will make the planned range of needs contingent on the resources remaining at the disposal of organizations from profits after payments to the state budget, from depreciations and other sources, from potential redistribution of financial assets pursuant to the regulations in force, from credits pledged by the bank, and from the grants allocated from the state budget.



The system for the financing of the needs of the VHJ's and enterprises and the further consolidation of its khozraschet character will remain in the future very important for the implementation of the objectives of our financial policy. That road commenced with the implementation of the Set of Measures. Reviews have confirmed its success. The principle enforced in the current 5-year plan is based on the premise that the accumulation of internal resources, mainly profits and depreciations, with concurrent restriction of grants from the state budget will determine to a major extent how the VHJ's and enterprises cover their planned needs. This principle was strengthened by the amendment on taxes on profit rates, by the abolition of property taxes, partly by discounts granted on taxes on profits, by the accumulation of funds for material incentives from exports, by principles for the allocation of grants from the state budget, by the method of distribution of profits, and by restriction on the redistribution of assets between economic production units.

As compared in current prices, the volume of internal assets for financing, left at the disposal of the organization in the six key industrial central corporations between 1980 and 1981 (the first year after an improved system of financial management had been introduced), increased by 7.1 percent, and between 1980 and 1983 by 12.8 percent.

While the share of internal assets from profits and depreciations [earmarked] for financing investment needs amounted in 1980 to 44.6 percent, in 1983 it increased to 54.9 percent. At the same time, the share of grants from the state budget declined from 14.1 percent to 7.8 percent.

These measures raised the demands on material incentives and on financing the needs of the organizations, and brought about differentiation between organizations with good and inferior management achievements. Due to the unfulfilled planned accumulation of profits, allocations for the funds of material incentives have been cut in a number of them, although they were entitled to allocations according to their fulfillment of decisive indicators. This effective impact of disposable profits on the standard of management and decisionmaking in the VHJ's and enterprises must be regarded as a positive trait of the financial management system. Thus, the khozraschet principles of responsibility on the part of the VHJ's and enterprises for their accumulation of financial resources and their efficient utilization by linking the accumulated resources with the needs will be further strengthened.

This pertains above all to the investment sector, where this principle has been enforced since 1981 in industry and construction by means of the development fund. The development fund proved successful as an efficient factor in the system of financing investments. Its introduction emphasized especially the objective need to interrelate investing with the accumulation of financial resources, which fostered a deliberate approach to the financing of investments from the fund and to a better fulfillment of the planned relations (proportions) in this particular area. On the basis of the generally positive experience, the unified investment fund that has replaced the current construction fund and the development fund is now in its second year of tests in main industrial branches. It is formed according to the standards for allocations from profits and from depreciation of capital assets and other resources with

the use of bank credits, and it is used to finance all investments of the VHJ's and enterprises. Thus, by its mediation the khozraschet principles are applied for the acquisition of all investments and to finance certain selected important construction projects on a priority basis. The assessment of the test run of this fund thus far has been in general positive, and for that reason it is envisaged that a unified investment fund will be introduced in all of our national economy in the Eighth 5-Year Plan. That will enhance the responsibility and authority of the VHJ's and enterprises when distributing disposable profits in relation to the use of profits not only for investments but also for supplies, i.e., when determining the category of its application in the first place, for investments and supplies interchangeably, and in the second place for allocations to funds of material incentives. This is the basis for applying intensive pressure to achieve not only more efficient investments but also an efficient development of supplies. Under such circumstances the efficiency of economic pressure and of the interest in decision-making on the part of the VHJ's and enterprises in determining the development of supplies--both their increase and their total volume--will improve due to a stronger effect of internal resources on the financing of supplies.

It is envisaged that the planned increase of constantly required supplies, not covered by the revolving fund, and continuous liabilities will be financed from the distributed profits by allocation to the revolving fund in case the bank denies the organization credits because of the shortcomings in its management with the stocks. Supplies exceeding the plan will be temporarily covered during the year with other assets of the organizations, temporary financial relief from the VHJ's emergency fund, and credits granted by the bank under stipulated conditions, while at the end of the year by allocation to the revolving fund from the distributed profits in the predetermined sequence, namely according to the mandatory share of the revolving fund in the supplies; if the bank does not grant credits for the remaining part of supplies above the plan because of the shortcomings in the management with supplies, the VHJ or enterprise must cover this part by allocations to the revolving fund from the distribution of profits.

In such circumstances the enterprises and VHJ's must consider more responsibly their use of disposable profits for investments and supplies because their funds for material incentives will be cut if they have spent their resources for such needs inefficiently. Furthermore, it is envisaged that if the stocks are permanently cut, the enterprise (VHJ) will release its financial resources to use them for other necessities.

One of the main targets of our financial policy is a dynamic impact on efficiency in foreign economic relations, mainly exports. This presupposes that in accordance with the Main Directions the following objectives of our financial policy stemming from a dynamic effect of financial economic mechanisms in foreign trade will be implemented:

--the results achieved in foreign markets must be projected into the management of the production organizations by means of purchase prices (combining the profits, or losses, from foreign and domestic activities);

--on the basis of the outcome of the experiment with domestic and foreign profits, to promote the interest of the organizations in more efficient exports, and to grant differentiated incentive bonuses according to the development of achievements in export; to use them mainly for above-standard allocations to the funds of the organizations;

--to promote the interests of the lower-level suppliers in indirect deliveries for exports, to obligate the higher-level supplier to grant the contractors of subdeliveries--with whom the supplier has a long-term agreement or from whom he receives regular subdeliveries--the same incentives in Czechoslovak currency and foreign exchange as those to which the direct exporter is entitled;

--within the framework of the system of financial economic mechanisms in foreign trade, to promote the development of mutual exchange of goods with the socialist countries, particularly the exchange of machinery, production modules, and efficient interbranch specialization and cooperation among the branches;

--to intensify further various forms of efficient interrelation of the production and foreign trade and to balance as much as possible the method of financing and material incentives of those organizations; thus, to unify their responsibility and interest in efficient foreign trade operations; to facilitate various forms of economic unification of such organizations and their joint sharing in the results (profits and losses).

Considerable attention in financial policy is focused on R&D. The decisions adopted in this sector by the Eighth Plenum of the CPCZ Central Committee are being translated into reality. Enforcement of an accelerated R&D cycle, utilization of its contributions, pressures exerted to achieve practical application of R&D achievements and their efficiency are issues not only for the whole planned management system, and within it of the financial management system, but also a specific issue of managing work on each of its levels. In order to implement the decisions of the Eighth Plenum of the CPCZ Central Committee, the following fundamental measures will be enforced in the financial sector:

--as a rule, R&D tasks will be financed by the marketers;

--funds for technical development will be set up in economic organizations according to standards from the costs; they may be supplemented from disposable profits;

--from the fund for technical development it will be possible to finance and credit acquisitions of machinery, installations, and pilot plant operations connected with the fulfillment of the program for technical development on a wider scale than thus far; with the approval of the superior central authority, machinery and installations for the fulfillment of such tasks may be financed to a limited extent from that fund;

--the financing from the fund for technical development may lead to a change in the basic forms of R&D progress (fulfillment of the tasks, acquisition of licenses, procurement of marketing results from other organizations);

--the analysis of the increase in profits will be used as an instrument for planning the contributions of technical development and for the assessment of the actual achievements; the analysis of the expenditures and effects of the technical development will be used in annual reviews of the management of the organizations;

--the innovation fund for the financing of the entire process of innovation--i.e., R&D and related capital investment necessary for its fulfillment--will be introduced on an experimental basis.

The financing of the planned R&D tasks continues to represent an important long-range program of our financial policy. The amounts designated for R&D in the state budget or in the funds for technical development are not being exhausted--there is no lack of financial resources. The volume of the funds expended in this sector is fully comparable with that of the advanced countries. For instance, the total amount of noninvestment expenditures for R&D amounted in 1984 to Kcs 18.1 billion, of which internal resources of the enterprise economic sphere to Kcs 10.4 billion and the funds from the state budget to Kcs 7.7 billion.

As the entire financial management system, so also the system of R&D financing must strengthen its *khozraschet* character; above all, it must lead to higher R&D contributions. Our VHI's and enterprises must feel responsible for the accumulation of financial resources for R&D financing and for their efficient use. For that purpose necessary measures which are being prepared for the coming period include more efficient management and material incentives of organizations of the R&D base.

In order to implement the above-mentioned main directions of the effect of financing on the R&D sector, measures pursuant to CSSR Government Decision No 1/1983 are being applied already in 1984.

To safeguard the implementation of financial policies for the Eighth 5-Year Plan by more intensive and efficient financial management system, certain additional measures are being drafted; in particular, they will:

--adapt the financial management system of the VHI's and enterprises to the degree of centralization of managing operations; in VHI's where the integration of managing functions is at a high level the fulcrum of financial management will remain at the level of the VHI's general directorate, and conversely, in the VHI's where the managing function is at a low level that fulcrum will be transferred to the level of enterprises; specific solutions will be determined by superior central authorities according to the existing conditions of centralization of the managing functions and according to the progress of rationalization of the organizational structures;

--the efficiency of the principle that the needs of the VHI's and enterprises be covered first of all from their own resources will be further enhanced by



additional restrictions on the redistribution of financial assets; thus, the responsibility and authority of organizations in financial management will be intensified; redistribution will be focused on efficient allocations of assets, and for that purpose:

--redistribution will be made possible among enterprises in order to eliminate the long-lasting imbalance in the accumulation and need of the resources; unjustified redistribution equalizing economic achievements of enterprises and concealing inefficiency will be eliminated;

--mandatory regulations for the redistribution of depreciation at every level of management will be specified, so that depreciations become the source for financing simple replacement and so that on principle the regulations for the necessary redistribution of part of depreciations be uniform;

--a system of procedures against organizations with a chronically poor record of operations will be stipulated according to the following principles:

--[such organizations] will be granted consolidation credits as a kind of long-term credit assistance on the condition that their superior VHJ, or central authority, takes appropriate steps (economic cadre, etc.) to improve their management; credits will be granted on the basis of the consolidation program for no more than 3 years, and will be guaranteed by the superior VHJ or central authority; credits will be terminated if the organization fails to fulfill the stipulations and if its management has not improved;

--if no fundamental change of the management has taken place in the stipulated term, an analysis of the operations of the organization will be submitted to the pertinent authority, with a proposal for drastic measures, such as rationalization of the production, change of the production program, integration in another organization unit or transfer of the production program to another organization;

--measures for better management will be combined with evaluation of the managing operations of the organizations by their superior agency, with the participation of financial authority or bank officials;

--residual funds of the VHJ's and enterprises may be fully transferred to future years; the limit for the maximum residuum will be determined for the contingency fund alone.

Furthermore, the efficiency of our financial policy must be enhanced by better financial control, which must be understood as part of the process of management in this sector, and its cognitive, influential and informative functions must be utilized. It must affect the decisionmaking and the fulfillment of the decisions. Therefore, the Main Directions for the Further Development of the Set of Measures for the Improvement of Planned Management have focused special attention to the orientation and quality of financial control.

In financial control it is necessary to examine and evaluate scrupulously and objectively not only the achievements of management, good stewardship, and financial discipline, but also the effect and application of the mechanisms and regulations of our financial policy, to determine the causes of the deviations from our set objectives and conversely, to affect the fulfillment of our planned tasks and in particular, the achievement of the greatest possible final contributions to our society--to face antisocial phenomena and penalize negative phenomena with mandatory sanctions.

These tasks concern not only specialized financial control but also control conducted by managing authorities on individual levels.

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Our financial policy and the whole financial management system will be focused on the enforcement of economic calculations as the fundamental method of decisionmaking in managing operations on each of their levels. Actual results expressed in currency units and the financial situation of the VNJ and enterprise must come to the fore of our attention as a significant criterion of its assessment and of incentives for further development. To that end necessary methodological measures must be applied. However, this is not a purely methodological issue or accounting and documentation, but rather an approach to control. The groundwork for such an approach has been provided in the adopted as well as planned measures in conjunction with the work on preparations for the Eighth 5-Year Plan--including the principles of our financial policy--and in the framework of the implementation of the Main Direction. They must be fully applied in order to increase the pressure for intensification and thus for the fulfillment of the decisions declared by the 16th CPCZ Congress.

9004

CSO: 2400/201

CZECHOSLOVAKIA

TIMBER INDUSTRY IN CSR NEEDS HELP

Prague RUDE PRAVO in Czech 17 Dec 84 p 1

[Excerpt] The strong, destructive wind which swept across Czechoslovakia, and especially across the CSR, on 23 and 24 November caused the most devastation in our forests since the beginning of the 20th century. According to accurate accounts there are more than 7 million cubic meters of devastated timber in the forests of the CSR. Trees in the Czech forests, in Sumava, in Brdy and on the Czechomoravian highlands suffered the most damage.

Uprooted, damaged and fragmented trees were found above all in the spruce and pine forests, which are more than 50 years old. Officials of the Western Czech, Southern Czech and South Moravian State Forests have the greatest worries. In these enterprises the need for the fast processing of the ruined wood substantially exceeds their annual processing capacity.

Not only in the above-mentioned State Forest enterprises, but also in a number of other situations complications have arisen due to the fact that they have not yet managed to process the wood that was destroyed during the windstorm of 13 July of this year. This situation was caused in part by harmful emissions, and in part by an infestation of beetles and other pests. In the forests of the CSR 2 million cubic meters of wood remain to be processed from that sudden disaster. If you add to this 1.5 to 2 million cubic meters of wood from output caused by accidents, it is easy to figure that the timber industry of the CSR will enter the new year with an urgent need to process at least 10 to 11 million cubic meters of wood only from disasters and production caused by accidents. And this represents 85 to 95 percent of the total annual production established by the plan.

The state of the timber industry is definitely not enviable. Above all its officials should do their utmost to see to it that the above-mentioned amounts of damage do not increase even more. The possibility of such a hazard is a real threat. Subsequent losses could be caused partly by the processing of the wood from the disaster with unnecessarily large losses, and partly by an increase in insect pests.

From the steps that have been taken it follows that the State Forests are doing and will do everything that they can so that, even in these amazingly

difficult conditions, all the woodstuff will be upgraded. Therefore, the processing plants should from now on obtain high-quality raw material, even though in some areas--for example, the production of veneers--they will not be able to obtain high-quality woodstuff to the extent that was planned.

However, above all the greatest efforts will be made to see to it that uprooted and smashed trees do not become nurseries for insect pests. Precisely here lies the greatest danger, for it threatens our forests and their further development. A single neglected fallen tree trunk can in the following year become a threat to at least 25 healthy trees.

To be sure, the threat of an increase in the number of beetles is one of the greatest. The dry and hot weather in the years 1982 and 1983 created very favorable conditions for an increase in the number of these pests. This year these conditions grew into a state of acute danger for a beetle disaster. This year, however, we managed to prevent it--thanks to a number of timely measures and thanks to the humidity and cold at the time of the greatest danger of swarming. The timber industry destroyed almost 1.75 million cubic meters of wood threatened by the beetle, and thus it was possible to consider the beetle disaster averted.

The recent ruinous windstorm once again created extraordinarily favorable conditions for the further development of insect pests in the forests. The whole situation in the struggle against beetles has become incomparably more difficult than before. Even if the timber industry takes effective measures for preparedness and for liquidation as soon as possible following a disaster, collectives from forestry plants move into a region where there is the most material from a disaster, and they do so without substantial aid from outside.

When the most significant disasters occur it is necessary to consider the maximum aid from official sources, because the employees of the State Forests cannot gain control of the processing of timber from a disaster and of the removal of the consequences in the forests, declares a report from the Ministry of Water and Forestry, which was elaborated recently by the Government of the CSR.

Indeed, the timber industry needs effective aid. However, the fact that this involves dangerous work, which can only be done by properly trained and equipped employees, complicates the matter. But this does not mean that amateur brigades, who have a desire to help, cannot contribute their share in these difficult times in the forest. This shows that the forestry plants--especially those that were most affected--welcome any helping hand, in order to be able to offset the injurious results of the windstorm.

Significant aid to the forests can be provided by enterprises and organizations that have the opportunity of quickly and effectively supplying the pertinent technical aid, such as agricultural and other enterprises, which might offer the means of transportation for picking up the wood. Processing will be destined for those organizations that have moved their work squads and provided



room and board for them. The help of national committees, enterprises and organizations is welcome and desirable everywhere. The foresters believe that they will not have to wait long for it.

Jointly with the Czech Trade Union Committee measures are in preparation for providing a greater number of protective garments, the organization of overtime work for repairs in forest technology and an increase in financial aid for the timely processing of wood from the disaster while adhering to desirable low costs. The independent manufacture of fuel and useful wood will be permitted to a certain extent--especially to socialist organizations.

Employees of the timber industry are not sitting with their arms folded, nor are they becoming dispirited by the damage caused by the windstorm, but they cannot do everything by themselves. That is why they are urgently in need of help.

12313

CSO: 2400/181

CZECHOSLOVAKIA

WEATHER EXTREMES, UNPREDICTABILITY DISCUSSED

Prague HOSPODARSKE NOVINY in Czech No 51/52, 1984 p 12

[Article by Vilibald Kakos, Czech Hydrometeorological Institute: "Has the Drought Ended?"]

[Text] For many years we have been publishing on the pages of HOSPODARSKE NOVINY a brief hydrometeorological analysis of the preceding 12 months. In connection with droughts, we have often warned that a long-range weather forecast can still not be reliable worldwide; therefore, we cannot really predict when the 3 year period of subnormal rainfall will finally end. The past 12 months may briefly be characterized as a year of continuing hydrological drought, as well as of high winds of extreme velocity.

There are many anomalies which, judging by the period 1982-84, would indicate that something is happening to the climate of our earth. The causes of these changes which inflict enormous damage on various countries, however, are unfortunately not known. Under the patronage of the World Meteorological Organization, a study program was initiated in 1980 of the artificial influences on our climate, notably the problem associated with the so-called greenhouse effect. Some of the hypotheses on future development in, for example, central Europe are not exactly promising for us. Yet so far no one has been able to predict these changes with any certainty. Some aspects of this problem were dealt with at a conference marking the 30th anniversary of the founding of the Hydrometeorological Institute in Prague.

Concern About Water Persists

Last year, we reported (HN No 51-52/1983) the rainfall shortages for the individual regions during 1982-83, when the worst was the South Moravian Region. While in the Czech regions this shortfall has not increased between January and October of this year and the rate of rainfall remained roughly normal, the shortage did rise on the territory of Moravia, slightly by 36 mm in the South Moravian Region, but by 105 mm in the North Moravian Region! This placed the region in first place in the Czech Socialist Republic, since the shortfall between January 1982 and October 1984 is 372 mm, which is 22 mm more than in the South Moravian Region. Another indication of continuing drought is shown in the following table of the considerable and permanent drop in water level of rivers during the past 3 years.

Average annual water flow at stations which best indicate overall water flow conditions in the so-called decisive profiles of the three principal CSR rivers (in %)

<u>River</u>	<u>Station</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>
Elbe	Decin	137	92	70
Morava	Moravsky Jan	119	84	58
Oder	Bohumin	117	80	55

Relatively the worst situation was found this year in the Oder which, with a mere 55 percent of long-range annual average, represents a situation approaching almost the absolute minimum in observation since 1920, and has a repeat likelihood in long-range average of once every 20 to 25 years. The situation in the Morava is only slightly better, with a repeat probability of once every 15 to 20 years. The Elbe flow average was substantially better, with repeat probability of about 6 years.

This analysis of hydrological data clearly shows that Moravia is in a worse situation than Bohemia, especially in the eastern portions of the Oder (at Ostravice and Olse). In the Morava river situation, the worst flow occurs in the right bank tributaries coming from the Czech-Moravian Highlands. In the case of the Elbe River, this would apply to the Sazava and Luznice tributaries.

All this indicates that the hydrological drought has worsened this year, even in the Elbe river area, where rainfall was virtually normal. This fact provides a typical example of retardation of hydrological drought behind the meteorological.

These figures of the Czech Hydrological Institute on our surface waters signal a continuing difficult situation in some locations. At several test drilling sites, for example, the measurements were the lowest ever and continued, with small breaks, virtually throughout the whole year. This applies especially to areas in the vicinity of Bilany, Spytihnev, Pouzdrany and Lanzhot in the central and lower sections of the Morava River.

Even though, in comparison with the beginning of the year when we had to regulate deliveries and even furnish water to about 800 communities, supply has significantly improved, lesser difficulties persist. In late October, we were still providing emergency water deliveries to 5 to 10 communities in the districts of Bruntal, Novy Jicin and Sumperk. The urban area of the city of Brno also suffered shortages as a result of a water level drop at Brezova and Svitavou.

In the recent dry years it was again confirmed that in areas where there are water reservoirs the drought can be more easily overcome with proper water management. Drought, however, cannot be considered the principal argument for changing the basic program of our water management.

What we here consider serious drought cannot be compared with the extraordinary climatic conditions which have this year caused even famine in some areas of the world, for example in Ethiopia.

Analysis of the very serious problem of random drought which, in an "unplanned" manner, reached even our territory over a long period of time, would only be a repetition of thoughts widely discussed early this year in HOSPODARSKE NOVINY (No 6/1984). Representatives of the Czech Hydrological Institute then warned of the possibility of continued hydrological drought, basing their prognosis on the monitoring of long periods in which dry years quite clearly accumulate in varying degrees into long-lasting periods. Experience shows that even less severe drought can cause difficulties in our economy in the future, due to the growing need for water.

#### Rainfall Paradox

With this year's continuing drought in Moravia and normal rainfall in Bohemia, there is an apparent conflict in the generally unfavorable weather during the April-September vegetation period, marked by a high rate of cloudiness, rain, and relatively low temperatures. It is interesting that rainfall during that period in the CSR was 422 mm, which is precisely the long-term norm. This normal state, however, "broke up" into more days with less rainfall than is normal. Thus, for example, at the Praha-Karlov station there was rainfall of 0.1 mm and more in 90 days, and 1.0 and higher in 60 days, which in both cases represents 120 percent of the norm of 50 to 75 days. The paradox lies in the fact that it rained or merely drizzled more often than in previous years.

The unfavorable weather conditions during the summer months, which caused a delay in agricultural operations of roughly 3 weeks, consisted not only of long periods of subnormal temperatures but also of too little sunshine.

According to the Prague studies of temperatures since 1775, the cold vegetation period returns on the average of once every 7 years, while in terms of constant negative temperature deviations during all of the months of this period, it is about once every 25 years. Due to heavy overcast, the number of hours with sunshine was also low, but not yet extremely so. In Praha-Karlov, for instance, there were 978 hours of sunshine, which is 74 percent of the long-term norm for the vegetation period.

In comparison with last year's unusually good and warm weather, this year appeared worse than it really was.

The records confirmed that last year was the worst ever in terms of temperature changes during the vegetation period from year to year. As a result, the number of at least comfortable warm days in Prague this year (i.e., temperatures over 25°C) was half of the 72 last year.

Another extreme phenomenon which has no parallel in more than 200 years (!) was the abnormal rise in temperatures during 5 days in July. Thus on 6 July we had a very low temperature of 13.2°C, while on the 11th it jumped all the way to 29.1°C. The record maximum for this day is 36.0°C. This temperature rise of almost 16°C had very bad effects especially on vegetables and fruits. In the course of a single day, for example, some types of vegetables became overripe, while the torrid sunshine literally "burned" berry-type fruit on its bushes.



## Severe Storms and Gales

Following this unique heat wave in a cool summer, right on 12 July in the evening and night hours there were literally tropical storms and downpours, along with winds which in some places reached hurricane speed. This 2- to 3-hour natural disaster (for which the Czech Insurance Agency has paid almost Kcs 1 billion in damages) hit a strip of territory reaching from Bavaria and Austria, through south Bohemia, the Czech-Moravian Highlands and the Sumperk area, all the way to Poland in the direction of Warsaw.

Radiolocation measurements of cloud cover and rainfall, conducted in Praha-Libuse and at Maly Javornik near Bratislava (by the Czech and Slovak Hydro-meteorological Institutes), showed that the upper reaches of storm cloud cover (up to 16 km), the high intensity of wind shock, and their territorial extent, made this phenomenon quite extraordinary. The highest rainfall occurred during a cloudburst in Sumperk, reaching 105 mm.

Following this July incident, there were floods for the second time this year in the Litomysl area. The first flood occurred after heavy rain on 17 May. The onslaught of water swept away arable soil, along with rock, and clogged up canals. After the water receded, there remained a half-meter layer of mud. Expert analysis later showed that the extremely high water flow away from the town vicinity was, at least partially, caused by the incorrect use of formerly grassy areas for corn and sugar-beet cultivation on hilly areas, which resulted in the sweeping away of fertile soil. Such agrotechnical measures also sometimes cause the formation of a hard crust in the soil, reducing the capacity for water absorption. It was also decided to accelerate restoration operations on former dikes, as another means of flood protection for this town.

The worst weather came in September and there was no trace this year of an Indian summer. Throughout the CSR rainfall reached 97 mm, the highest of all the months. In the Slovak Socialist Republic it was as much as 130 mm, and in some parts of central Slovakia over 200 mm. In the upper Hron and Vah waterways there were floods equivalent to 10- to 20-year flow. Floods of this size, however, considering the whole territory of our state, were isolated.

While the rainy September slowed down the final and delayed harvest operations, it had a beneficial effect on this year's hectare yields of root crops, especially sugar-beets, which in late August had been in a critical condition in drought areas. Otherwise, our agricultural workers coped relatively well with the less serious, though frequent, pitfalls of the weather, so that, according to most indicators, we had a record harvest.

The worst extremes of this year, however, did not occur until 2 consecutive days in late November, and there are probably few who remember anything like it before. A large part of Europe, including our territory, was hit by catastrophic gales in which the winds in many places reached a velocity of 140 km/h. The Praha-Karlov station, for example, on the morning of 23 November registered 142 km/h, and the following morning even 145 km/h. These two wind gusts were the highest in more than 30 years. As a matter of interest, the third highest wind shock of 133 km/h was registered by an anemometer during a passing storm on the afternoon of 17 August 1974.

For a short time during that period there was considerable disruption of the electricity distribution system, telephone connections were cut off, and fallen trees halted transportation in many places. The capital city of Prague, for one, has never before experienced such heavy damage to public property. In Pruhonice Park alone, for example, the gale destroyed several hundred trees, including some 100-year old giants. Staggering damage was suffered during the November wind storm by our forests, especially in the southern half of Bohemia. According to preliminary estimates, more than 5 million cubic meters of lumber were brought down, roughly half of the planned annual yield.

The damage caused by this hurricane, which raged especially in Bohemia, surpasses similar cases of destructive wind storms in the past. According to reports of the Czech State Insurance Agency, the number of cases and volume of financial coverage (probably to exceed Kcs 1 billion) represent the largest such claim in the past 10 years.

In the infliction of direct or indirect damage caused especially by gales but also by storms, downpours, and protracted drought, this year ranks among the worst in recent memory. On the other hand, the relatively mild winter without long periods of severe frost partially made up for our losses. The probability, however, of these conditions recurring in one of the coming years has again risen.

9496

CSO: 2400/227

HUNGARY

NEW TYPES OF ENTREPRENEURSHIP IN FOREIGN TRADE VIEWED

Budapest KULGAZDASAG in Hungarian No 12, Dec 84 pp 68-73

[Article by Eva Bogнар, Agnes Hitessey and Viktoria Lajtai: "New-Type Enterprises in Foreign Trade"]

[Text] The indispensable condition for increasing our export capacity and our export performance is an improvement in the net efficiency of foreign trade work. Among the diverse components which determine the level of foreign trade enterprise work, the personal conditions are of paramount importance: the training, activity, attitude toward undertaking risks and responsibilities, and the individual work performance quality of the foreign traders who do the selling and preparation and carry out the concrete transaction. At the same time, it is well-known that the current enterprise income regulation system does not really disentangle the personal interest in this extremely important area, first and foremost the moral elements prevail in stimulation, and the salary of foreign trade dealers neither in its level nor in its differential scale reflects the enterprise and individual performances. Only a further relaxation of enterprise wage regulation constraints can bring an actual solution to the problem; at present the enterprises--for lack of something better and as a stopgap arrangement--are able to mobilize the unused reserves of personal interest mainly by cooperating with outside organizations and specialists or by creating new organizations. The article's authors present as models those possible solutions--already introduced in practice and in the process of being introduced, or in conformity with rules of law already worked out in principle--which also under the current wage regulation constraints are able to assure better and more sensitive appreciation of individual performance.

An increase in export performance has nowadays become one of the basic touchstones for the attainment of economic policy goals. Foreign trade itself, however, is able only within limits to contribute to a further expansion of exports. It is possible to make substantial improvements in productive

capacity and net efficiency only through development of the producers' background in harmony with structural policy goals.

In the interest of maintaining our solvency and improving our balance of payments, an increase in foreign trade assets has received priority in the economic policy's system of goals.

In our opinion, perhaps the most essential and--up to the present day--inadequately exploited reserve for increasing our export capacity is the foreign trader, or rather his expertise, his creativity, his highly responsible and at the same time risk-taking attitude. As far as we know, the current system of wage regulation and income differentiation does not offer any guarantees for mobilizing these reserves. The wage level of the dealers, shipping agents, administrators, correspondents, etc., in short, the rank and file of foreign trade, scarcely surpasses the national economic average; their pay is not in proportion to the responsibility inevitably assumed in the course of their work or else not assumed precisely as a result of the foregoing. Today, primarily moral factors stimulate them to attain better and better results; financial recognition plays at most a supplementary role, and its sum falls far short of the degree of performance attained or attainable. The unsolved problem, over and beyond low wages, is income differentiation linked to performance. Alongside the bad conditioning resulting from the "egalitarianism" of earlier decades, the chief reason for this is the income level regulation which generally prevails in the national economy. The switchover to wage fund management will presumably ease the problems, but it would be an illusion to expect from this measure a substantial breakthrough and the emergence in itself of the performance-increasing effect of personal interest.

The question is acute, and the nature of foreign trade as a whole is indicated by the efforts and attempts which a whole series of enterprises have experienced mainly in the last year or two and which seek a solution to these problems by exploiting openings and legal loopholes within the current framework of regulation.

A greater possibility for increasing the enterprise wage level and for developing wage forms proportionate to individual performance offers itself today chiefly within the range of the new-type, recently created organizations. These may also be organizational forms with or without the status of a corporate body. In what follows, we present, by way of models, solution variations already introduced in practice and in the process of being introduced, or in conformity with rules of law worked out in principle.

#### Organizations Not Having the Status of Corporate Body

##### Work Associations (GfKs)

According to the Labor Code statute on the GfK, the GfK's domain of activity "is the performance of other services and work which complements the activity of economic organizations, as well as the latter's establishment and promotion." The GfK cannot carry out trade activity, only its establishment or the promotion of its transaction.



Thus the role of law does not exclude recourse to GMR activity and services in Hungarian foreign trade organizations, but it does make active involvement impossible. The GMR activity can therefore merely include preparation: market research, advertising work, continuous gathering and analysis of market and technical information, forecasting, organizing exhibitions, implementation, giving legal advice, technical and commercial translation.

At the same time in the performance of these activities, there emerges the restriction that since the GMR is not a legal entity, its system of responsibility is inexplicable, it cannot possess a foreign exchange account, so it cannot receive the opportunity for travel to uncover and establish foreign business, or only indirectly by interposition of the foreign trade enterprise, so that it functions essentially in isolation from the foreign market. The problem is bridged if the foreign trade enterprise authorizes the GMR to perform certain tasks--which do not violate the foreign trade monopoly--in its place and in its name.

In the case of the GMR, personal interest can be assured--according to experiences so far--under the current conditions of income regulation and taxation. The application of GMRs in foreign trade organizations today is still very sporadic; the chief reason for this is an attitudinal antipathy, an opposition which can be explained by the particular situation of foreign trade. At the same time, their use can definitely be expedient and productive, especially because it is time-consuming for producing enterprises which have recently obtained the right to export to develop their own efficient, hard-hitting foreign trade organization, and assuring the personal conditions in the countryside is also uncertain. Recourse to the services of GMRs can mean a solution in the transition period. At the same time, we find it acceptable in the long run as well to make use of the help of outside experts for the performance of the producing enterprises' foreign trade activity--for the performance of certain easily specifiable tasks requiring particular expertise--hereby creating a special division of labor between the internal expert apparatus and the external advisers and colleagues. In our opinion, the foregoing solution, which is extremely common in the market-economy countries, can be recommended unconditionally with respect to both its cost requirements and its expeditiousness. There is no obstacle to this solution under the present statutory regulations.

It is likewise advisable to draw a GMR into the work in the case of cooperatives and producing enterprises which possess a contingent export right. The GMRs can be used effectively for the development of certain pursuits and for consultation purposes to launch foreign trade activity (buildup of foreign trade organization, flow of information within the enterprise, elaboration of the internal arrangement of division of labor, enterprise marketing, development of market strategy, performance of concrete market-research or advertising tasks, management of an actual foreign trade transaction, etc). We would stress the cost-saving effect of this scheme. Since the export right is contingent, the export revenue is not unduly significant in comparison with the enterprise production value; development of an independent apparatus is in any case unjustified.

Our professional foreign trade companies have at their disposal an extensively trained staff of experts and an independent organization (market research, marketing, advertising, shipping, legal, etc) which is diversified and fully developed structurally. Yet it may be necessary from time to time to bring in outside experts and organizations to perform intermittent tasks which arise from the nature of foreign trade work, for example, to fortify activity directed at a certain market or to carry out new and special tasks still unfamiliar to the enterprise. The important advantage to this solution is that the outside expert's way of thinking is not bound by the enterprise hierarchy, so subjective factors of such a nature can be excluded from his proposals.

#### Enterprise Work Association (VGMK)

There has been a lot of talk lately about the VGMKs to be organized at professional foreign trade enterprises, although up until now we are aware of the creation of so few VGMKs that we still have practically no appreciable observations. The VGMK within foreign trade organizations can chiefly aid in the performance of higher-level activities which are equivalent to a bottleneck (foreign-language correspondence, technical translation, etc) at most foreign trade enterprises. Other kinds of activities may also be developed and organized in this form, for example, the marketing of smaller export articles, the discovery of new export articles, the establishment of the domestic producers' background, the organization of the manufacture of new export articles, the encouragement of intercompany cooperation, the promotion of inventions and the launching of their use, etc. The rule of law on the creation of VGMKs imposes conditions on the domain of activity. In the October 1983 issue of KULGAZDASAG, Gyorgy Dalmadi and Erzsebet Nyari wrote at length on the topic, the interests in connection with it, the concepts and the contradictions. Although the CMK and the VGMK--with respect to the domain of activity and the content of the assignments which can be undertaken and performed--can in many cases be considered mutually interchangeable solutions, we must perceive that, given the special, detailed and outside status at the CMK, the performance of some tasks, primarily those of enterprise organization, internal interest, etc, by bringing in an outside organization (CMK or outside expert) seems advisable.

#### Organizations Having the Status of Corporate Body:

##### Subsidiary, or Independent Foreign Trade Office

The law decree and its modifications concerning state enterprises or the law decree and its implementation concerning economic associations have made it possible for enterprises to be able to establish a subsidiary having the status of a corporate body or an independent foreign trade office. There is a need for this solution first and foremost where some department of the enterprise performs an activity which is different in other respects or the parent company can undertake some new activity within these confines.

The unqualified advantage of this solution from the standpoint of the creator parent company is that the formation of the new enterprise is not tied to permission from high authorities and, at the same time, there is an

opportunity for the newly created foreign trade organization to request an individual wage system, beginning wage preference or an advantaged wage form. The subsidiary can also operate in the form of a small company whose wage regulation is more beneficial than that of other organizations having the status of corporate body.

In foreign trade practice starting in the 1980s--following organizational decentralization processes taking place throughout the economy--a wider and wider range of companies has availed itself of the opportunity to establish an independent enterprise and to develop self-contained organizational units independent of the parent company. Establishment of subsidiaries has also taken place at the professional foreign trade enterprises themselves, and this opportunity is also available to producing enterprises which have recently obtained the foreign trade right.

On the strength of appreciable experimental materials, these forms--though not free of contradictions--have revealed numerous successes in a short period of time. Their most obvious advantages: freedom from constrictions arising from creation of the new organization and the possibility of complete separation from "traditions," enterprise inflexibility and conditioning taken in the bad sense. In their organizational development and in the practical formation of some functional and merchandise departments' operational principles and methods, they can avail themselves much more freely and fearlessly of statutory possibilities which are in essence available to every enterprise. Let us mention as an example the independent expenditure/income record, which assures an uninterrupted assessment and verification of the activity of certain departments, a healthy competitive spirit, and a greater degree of identification with enterprise interests. Due to enterprise income regulation, the workers' pay depends directly--over and above the enterprise's total performance--on the successfulness of the given department, organizational unit. As new organizations, their unqualified advantage is that in the development of a permanent staff and in the adjustment of work force requirements and functions they can employ a set of knowledgeable specialists, in their decisions they have to take into account almost exclusively economic common sense, and they are not burdened by the "work force surplus" of an already existing and ossified organization. In this manner, the optimum can be approached in terms of professional knowledge and number of employees.

#### Joint Enterprise

On the basis of experiences so far, the establishment of a joint enterprise has taken place in the following cases: for the acquisition of exports by producing enterprises with an identical or similar profile and, in the case of an independent export right, for its transaction; for the performance of necessary coordinating and organizational tasks at producing enterprises with complementary profiles; and for the promotion of exports by producing cooperatives.

Among the establishing enterprises we find, not inevitable yet often, a professional foreign trade company--it is linked to the product profile and

traditionally pursues the export of products--which in the form of wage servicing performs certain functional tasks for the newly created organization. We point out that the same division of labor is utilized in the buildup of a subsidiary.

Outlined from the standpoint of the creation of individual performance incentives and export interestedness, the organizational solutions disclose or rather mobilize numerous new possibilities and reserves. As new organizations, they generally have the opportunity to establish higher starting wages (according to our inquiries, the employees' entry wage level is higher here than for traditional forms), individual wage preference can also be demanded in most instances, and there is the possibility for increased pay for more highly qualified specialists who have several degrees and greater professional and commercial knowledge. A system based on organizationally semi-independent units with small work forces makes it possible to measure independent performances more exactly, and a unit-by-unit value analysis furnishes the foundation for a differentiation which rates genuine performance in both directions. As a result of all this, the greater alignment of individual and enterprise interests can create a healthy enterprise atmosphere.

#### Enterprises Which Conduct Agent's Activity

Agencies also exist traditionally, but those came into being as the Hungarian agent of foreign firms and in order to represent them. Under the current conditions of development and export incentives, companies providing service of an agent character can mean efficient assistance primarily for producing enterprises or cooperatives possessing the independent export right. The agency, as a flexible economic organization with a small work force, can carry out export-development and export-promotion activity chiefly in the following two areas: (1) in the preparation of business activity for manufacturing or producing (preparing proposals and tenders, organizing cooperation and primary undertakings, performing coordinative and directive tasks); (2) in the discovery of customers and marketing possibilities on foreign markets (capitalist markets) on behalf of the producer.

The enterprise performs this latter task not as a simple agent but as the representative of the firm or firms. The enterprise shares in the agent's commission in proportion to its services. The income assures cost coverage of the earmarked activity and profits in proportion to performance, i.e., the organization's financial basis. In return for a special fee, the agency can also perform other tasks connected with the completion of a foreign trade contract. In the buildup of the agency enterprise's permanent staff, it is possible to choose partly from the producing enterprise's technical development apparatus (if at one's disposal) and from among the experts of the foreign trade department, although bringing in outside experts is generally unavoidable. Enterprise and individual income interest and performance orientation--projecting over the entire enterprise--can be obtained by a system of commissions in proportion to business turnover, on the personal level by the designation of precisely circumscribed and clearly



outlined assignments tailored to the individual and by assuring the measurability of performances. A wage system linked unambiguously to outcome is conceivable in such an organizational form.

### Closing Thoughts

Expansion of exports is an essential condition for maintaining our solvency. However, the hope for a significant and successful export offensive presents itself only by a transformation of the domestic production mechanism and by an improvement of our relative position in international competition; in any case, this will take a longer period of time. Under such circumstances, every effort and endeavor deserves respect which, within the given framework of the economy and on the basis of the current enterprise or rather income-regulation system, is able to exert a dynamic and production-increasing effect. We can consider it a natural and healthy entrepreneurial attitude that a significant part of the foreign trade enterprises seeks a solution--from a highly responsible and national economic viewpoint--to a better, more differentiated and more performance-specific recognition of the vitally important business transaction and other incidental activities.

Naturally, it is a question of forced measures which, if they mean a kind of advancement, have a fairly limited effect and leave the great whole of the foreign trade sphere untouched.

It must be emphasized at the same time that, in addition to creating personal interest, it is also important to change the poor conditioning which treats the foreign traders' activity as administrative work. After all, "navigare necesse est," changed somewhat: it is necessary to do business. And for this there is a need, not for administrators, but for gifted, trained and experienced traders who transact business in the knowledge that they, too, will share in the profits they have made.

12327

CSO: 2500/160

HUNGARY

SOME SPECIFICS OF PRICE INCREASES EXPLAINED

Budapest MAGYAR HIRLAP in Hungarian 21 Jan 85 p 5

[Article by Istvan Matko: "Questions and Answers About the Increased Prices"]

[Text] In our Saturday issue we published the communique about the price increases. In what follows we seek to answer a few of the questions of concern to public opinion.

Strict Price Protection

[Question] To what areas will the effect of the price increase extend?

[Answer] The present, 21 January, increase in consumer prices will not very much affect the costs of state and cooperative managing organizations, with the exception of the catering industry. With the exception of foodstuffs used in the catering industry these organizations get raw materials and energy at producer prices. In the case of some energy services, for example electric power and piped gas services, even the small scale producers are subject to a producer price which is higher than the consumer price, and the present measures will not affect this.

The present measures will influence the costs of small scale and household plot producers. Of these we must mention vegetable production under foil, where the fuel costs will increase. We must count on an increase in the prices for early fresh produce. The costs can be reduced by improving the efficiency of production, with more economical energy use and by modernizing tools, so the effects producing a price increase can be moderated. The price increase for milk, milk products, sugar, cocoa powder and canned goods--to which the communique refers--will increase the prices of the catering industry (including institutional meals). The more expensive primary materials listed will bring an increase in prices primarily for confectionery products, baked goods and ice-cream.

All these transmitted effects in the expected increase in free prices were taken into consideration by the authorities; they will take place within the consumer price increase figuring in the economic plan and not outside of it. The National Materials and Price Office will check to see that false cost

increases attributed to the present price increases are not passed on in the prices of those engaged in further processing.

[Question] How can one prevent unjustified price increases?

[Answer] More than 40 percent of the consumer prices continue to belong to the authoritative price form, that is, prices can be increased here only with a central decision. The free prices cannot be established arbitrarily either, the government passed several measures about this in 1984.

The appropriate organizations, primarily the Price Office, watch the development of prices. And not only after the fact, on the basis of statistical reports, but before the fact, before the prices are raised. Most significant from this viewpoint is the price information system introduced last year in trade in consumer goods. Six weeks before a planned price increase the producers must report their price increasing intentions to trade. These reports go from trade to the Price Office and the Ministry of Domestic Trade. The two organizations examine together whether an increase in prices is justified. If they find the increase irregular or unjustified they have a way to stop it. If the increase is justified but problems arise from the extent or timing of it (for example, if there are significant stockpiles of goods made from materials acquired at the old price) the introduction of the new price can be suspended for a period extending from 3 months to 1 year.

In December 1984 the obligation to report price increases was significantly broadened at industrial enterprises manufacturing consumer goods and at consumer service enterprises, which increased to 1 year in general the possibility of suspending a price increase. A temporary tightening of the prior reporting obligation for price increases was necessary in order to prevent unjustified price increases initiated on the pretext of the regulatory and taxation changes.

It can be seen from all this that the managing organizations must reckon with the fact that price and market supervision will exercise strict control to see that the price and market work of the enterprises will adhere to the legal prescriptions. They are checking the application of prices in the shops and on the markets with many tens of thousands of checks, and action will be taken against those which are against the rules--as most recently in the case of Christmas trees.

#### Market Supervision

[Question] Whose task is it, primarily, to check the prices?

[Answer] It is the task of market supervision to anticipate or prevent market balance disturbances or to take action in the event of these. A system of market supervision has been operating for several years, the government decree which went into effect on 1 January 1985 extended its authority and expanded its tasks and tools. The central market supervision organization of the government is the National Materials and Price Office which, by virtue of the new authorizations, has a separate sum of money defined in the national

economic plan (the intervention fund) which can contribute to the good organization of trade and the removal of tensions. It can undertake to cover the extra expenses of certain stockpiling and can encourage the development of more favorable prices. An auditing system is part of market supervision. Its task is to see to it that enterprise independence does not pass over into abuse of the possibilities, that the legal prescriptions forbidding dishonest management and unfair prices are adhered to.

[Question] Might not all this run counter to the new regulation intended to improve the independence of enterprises?

[Answer] No. The management independence of the enterprises is not curtailed. But neither will the market suffer effects which might disturb the operation of enterprises working honestly and conducting an honest price policy.

#### Better Performance

[Question] We know that additional central price measures are not planned for 1985. What conditions are needed for the realization of this plan in the public interest?

[Answer] The national economic plan is counting on an increase in consumer prices this year smaller than in 1984, at most 7 percent. It is known that our aspiration is that the increase in free prices should increase the consumer price level by at most 3.5 percent. Measures have been taken in the interest of this in the plan and in other areas of economic guidance. If the results of economic work develop according to plan and if there is not over-distribution in the area of wages and other personal incomes, then the plan will be realized. But it is most important that we lay the foundations for a market balance and the favorable effects accompanying it with the necessary increase in efficiency and with a rational reduction of costs--thus with better national performance.

8984

CSO: 2500/173



HUNGARY

STATE BUDGET FOR 1985 DESCRIBED

Budapest FIGYELO in Hungarian No 51-52, 20 Dec 84 p 5

[Article by Dr Antal Pongracz]

[Text] The 1985 state budget estimates are constructed from the results of economic development in 1984 and formed in accordance with the goals formulated in the annual national economic plan.

Total income produced in the national economy increased by 8-9 percent in 1984, slightly faster than planned--largely as a result of price changes. The profits of enterprises came close to that planned, in general their financial situation is no worse than expected. Tensions are characterized rather by investment activities. The various central regulations (the withdrawal of the development fund, the payment of the construction tax, the investment fee, etc.) have restricted development resources.

The Goals of the Financial System

The state budget as a proportion of the GNP basically matches the plan and the balance has improved at the predicted rate: the deficit will be 3.5 billion forints. Although the budget's expected position will be as planned, the balance is developing with a faster than expected increase in the budgetary circulation of money. Budgetary payments by enterprises are larger than predicted, but this surplus had to be used to satisfy the greater needs for subsidies. These requirements primarily exhibit themselves at the time of reimbursement of differential production sales taxes and during the financial accounting associated with the fulfillment of agreements between socialist countries. The budget gained greater than planned revenues from the population, mainly as a result of greater than projected increases in the number of small businesses and in taxable income.

The financial demands of general social expenditures (tasks performed by the central and council financial organizations) are greater than planned. Coverage of expenditures will be made possible by institutional surplus revenues and greater than planned council financial resources; state support will not increase.

In 1985 the size of the foreign trade surplus needs to be increased, but this will no longer necessitate moderating domestic consumption, taking into consideration expected economic performance. Therefore, according to the plan, the level of real wages can be preserved, certain financial and social benefits paid in kind can be increased and investments which will diminish over several years can be determined.

The basic goal of budgetary policy is still to support and strengthen the improvement in the situation of the external balance through the use and distribution of income generated by the economy.

#### Improving Balance

In next year's overall income flows we are counting on produced national income (net national production calculated in current prices) growing by 9-9.5 percent and here value-added even more by 10-10.5 percent. Since the income which cannot be spent domestically (the export surplus) will probably surpass the income of 1984, the rate of increase of income for domestic use (8.5 percent) will be less than that of income produced.

In 1985 the task of regulating purchasing power--according to past years' experiences--also needs to be solved primarily with budgetary instruments. Following from this, the budget also affects with its own specific instruments the income of other domestic possessors of incomes (enterprises and inhabitants) according to balance requirements. This is indicated by the increase in the sum of nonspendable targeted budgetary savings (credit covering fund). At the same time only moderate increases in state financial spending are possible, in keeping with these requirements. In the future this specific budgetary task of centralizing income can diminish to the extent that the new modern stimulatory instruments and methods will promote the increase of savings by enterprises and people.

According to the proposal presented to the National Assembly, the balance in the 1985 annual state budget of 607.8 billion forints in revenues and 610.3 billion forints in expenditures will be a deficit of 2.5 billion forints. In comparison to 1984 the monetary flow of budgetary revenue will grow 6.5 percent, expenditures will grow by 6.2 percent. Next year's deficit will decrease by one billion forints compared to that expected this year. The 1985 annual state budget balance presented to Parliament contains the following overall provisions:

Enterprise payments and taxes connected with consumer goods turnover, which basically determine the budget situation, will increase by 6 percent in aggregate, substantially slower than value added. One of the main characteristics of 1985 budget policy is that a much smaller portion (28.5 percent instead of today's 30.8 percent) of budgetary revenues obtained from enterprises will have to be returned as subsidies.

The system of enterprise payments has changed considerably in accordance with the modifications in income regulations. In the 1985 budget 10 percent of total revenues will come from the new enterprise tax categories. The moderate decline in tax payments indicates that in fiscal year 1984 the burden of the

taxes and payments to be cancelled was 1-2 percentage points higher; moreover the burdensome withdrawal of profits will also decrease somewhat.

#### Subsidization Policy

Table 1: THE 1985 ANNUAL STATE BUDGET REVENUES AND EXPENDITURES  
(In billions of forints)

Revenues	Amount	Percent Change*	Expenditures	Amount	Percent Change*
Enterprise Payments	404.6	6.6	Investment	58.7	0.5
Sales and Consumption Taxes	91.0	4.0	Enterprise Subsidies	97.7	5.9
Payments by Citizens	52.1	16.2	Consumer Price Supplements	43.5	-15.5
From Institutions Financed by the State Budget	50.1	2.4	By Institutions Financed by the State Budget	202.0	9.8
From International and Other Sources	10.0	-2.2	Social Security and Health Care	131.7	9.2
			International Expenditures and Other	76.7	13.3
Total Revenues	607.8	6.5	Total Expenditures	610.3	6.2
Deficit	-2.5	-28.6			

\*Compared to the expected results of the 1984 budget.

The total of enterprise and consumer subsidies will be 2 percent smaller than forecast for this year. The decrease in subsidies in fiscal year 1985 signifies another step toward reducing the income redistributing role of the budget. The decline should take place in circumstances where production and turnover is expanding and as a result, subsidies would substantially increase in the face of unchanging conditions. Therefore, to achieve the set goal, particular areas of subsidization must be reduced according to a specified scale. First of all, subsidies can and should be moderated where improvement in the flexibility of production can be realistically expected, since in this case the subsidy covers a loss which could be eliminated by better management.

The declines in this area are of a limited magnitude since today most of the subsidies have to do with goals which are important from the viewpoint of economic or social policy, such as protection of consumer prices or subsidies for the food economy. In the first case it can be done by creating an organic relationship between producer and consumer prices and closer joint movements, keeping in sight the main goals of the policy on the standard of living which limit the margins of possible consumer price fluctuations. Concerning production subsidies next year we would like to take better advantage of flexible employment of instruments for intervening in the market, replacing in this way numerous subsidies which cause the maintenance of production activities at unchanged levels from year to year.

In 1985 revenues from the population will grow very dynamically--by more than 16 percent--and in this manner will reach almost 9 percent of projected revenues. The tendency towards growth in revenues from the population moderates the need for tax withdrawals from enterprises and helps provide a foundation for the necessary budgetary sources for social expenditures. The planned increase postulates that the number of new economic forms (businesses and partnership associations, etc) will further increase and their activities will also broaden. Besides this, the tax schedule for partnerships will also be increased.

The value of budgetary expenditures in final demand compared to GDP will fall by one percentage point in 1985. This will occur in such a way that budgetary expenditures will be constant, they will comprise close to a 40 percent share in the financing of domestic final demand (investment and consumption). That includes a two percentage point decline in the role of the budget in the provision of money for investment, while the share of the budget in public consumption will grow by 0.7 percentage points--primarily as a result of entitlements predominating in the benefits system.

Among budget expenditures involving final demand, investment expenditures will remain at the same level as in 1984. The budget assigns 5.5 billion forints to large state investments. The planned amount--supplemented by other sources--will cover the completion of four large investments in 1985 (the Markus-hegy and Nagygyhaz coal mines, the Fenyofa Bauxite Mine and the Arpad Bridge) and in part the beginning construction of the National Theatre. Within the targeted group of investments the development of productive infrastructure (for example, railroads and the telephone system) which creates the economic background for production will receive priority. Enterprise investments will be supported by the same amount of budgetary assistance as last year--that is, a diminishing proportion.

#### Social Demands

In 1985 expenditures of publicly-financed institutions will increase--in current prices--by close to 10 percent. In general this will guarantee that the sums spent on social expenditures will be in accordance with the increase in prices. With intelligent corrections in the application of instruments this financial fund will open possibilities to preserve the level of services in educational and health care institutions which provide basic services. In



spite of this seemingly rapid increase, it will be very difficult to fulfill the demand; in the last year of the Sixth Five-Year Plan period it has become necessary to provide for the operation of more than the usual new welfare and social investments. Although in 1985 more sources will become available for the renovation of these institutions, the major part of mid-year sources of surpluses will also have to be directed towards this use in the future, in order to at least partially satisfy the urgent needs for reconstruction of hospitals, schools and theatres.

In 1985 the increase in spending on socialized medicine will also be in harmony with the processes of the national economy. The expansion of these expenditures will be determined by the number of people provided with health care, the increase in average incomes and the planned recompensation for price increases in the area of benefits. One portion of surplus resources for the purposes of population policy will be generated by further internal redistribution.

The fulfillment of the goals formulated in the budget for fiscal year 1985 sets a higher standard than ever for every participant in economic management. In the long run, the establishment of balanced economic development also requires that enterprises and associations generate their output, improve the quality of their products and improve the flexibility of their management in harmony with the conditions and possibilities of the external economy.

12646

CSO: 2500/146

HUNGARY

CEMA COLLABORATION IN AGRICULTURE DESCRIBED

Budapest FIGYELO in Hungarian 20 Dec 84 p 13

[Article by Jozsef Surjan: "Cooperation in Agriculture"]

[Text] The agricultural cooperation of the CEMA countries is being managed by the Permanent Committee of Agricultural Cooperation, that was established by a resolution of the 7th session of the Council for Mutual Economic Assistance in May 1956. During the first period of its existence cooperation consisted primarily of efforts to expand commerce and to mechanize agriculture, participation in scholarly consultations and training of experts.

In the mid-1960s, the new conditions created by the development of agricultural producing cooperatives made further progress necessary. The complex cooperation program adopted by the CEMA countries in 1974 gave new impetus also to the creation of a material-technological basis for agriculture. Investments have grown, between 1960 and the late 1970s, about 2.5 times in Bulgaria and the GDR, more than five times in Romania, 6 times in Poland, 5 times in the USSR, more than 1.5 times in Czechoslovakia and 4 times in Hungary. The utilization of artificial fertilizers grew by 600 percent, farmers have begun to use new plant protecting agents and mechanization became more widespread.

Examinations of Species and Improvements

Cooperation within the Permanent Committee of Agricultural Cooperation has been organized primarily in the framework of working groups. From the activities of the plant production working groups we should extrapolate the international breeding analyses in the first place in which, in addition to the CEMA countries, also Yugoslavia participated. Until 1970 there were 535 species or hybrids examined, and since 1980 yearly more than 450, from which an average of 35 have been employed in production. The species which have been improved in cooperation were planted by 1980 on 15 million hectares cropland.

In certain periods of times the share of such tested species formed 60 percent of the entire wheat crop area, and in Bulgaria, the GDR and Hungary it reached even 90 percent. In order to further develop international cooperation, the member states concluded an agreement concerning the specialization of the production of seeds for 30 plants, as a first stage. At present the production of seeds of about 50 species of plants is carried out in this form of specialization.

Those who participate in this work are paying great attention not only to the yield but also to improvements in quality. The yield of these wheat species exceeds, for example, by 10 to 15 percent the average, their frost-resistance is better, their stalk is sturdier, they are more disease-repellant, their grain is of first quality and their utilization in the baking industry is good. The protein contents of various species exceed the prescribed standards.

The new kinds of barley stalks are less prone to be beaten down, their grain yield reaches 6 tons per hectare and their protein contents exceed 15 percent. The starch contents of the potato species are higher, they exceed 20 percent. These potatoes are more resistant to pesticides and mechanical damage and their yield per hectare in starch value amounts to 6 tons.

A special coordination center has been established for improvements in the standards of grain qualities. In the past 14, at present already 80 scientific institutions are taking part in this work. More than 200 new wheat, rye, barley and other cereal species have been tested.

The center of coordinated corn improvement is in Martonvasar. During the last 5 years 12 new, officially standardized, corn hybrids could be produced by common effort. These have been introduced into the corn-production of the member countries. Certain corn cross-breeds, produced by East German-Hungarian joint hybridization, are planted on 60 percent of the GDR's corn crop area.

#### Industrial Animal Husbandry Systems

Cooperation in animal husbandry takes place in a permanent working group, in the framework of agreements concerning the utilization of gene funds and in scientific centers of coordination. These centers are working on the development of the biological foundations of breeding, they try to solve various biological problems of animal husbandry and are experimenting with high quality breeding stock. Thus, during the last 5 years, specialization has been worked out for the breeding of almost 25 kinds of cattle, 20 breeds of hogs, 30 sorts of sheep and 4 varieties of goats.

Good possibilities are in sight for cooperation in poultry breeding. As a result of work done thus far on the specialization of some breeding stocks, we managed to develop a new gene fund which represents world standards.

All these results made it possible to work out industrial-type animal husbandry systems, the employment of them in widening areas and the raising of the work productivity norms.

A condition of modern animal husbandry is the existence of high standard animal sanitary conditions. The coordinating activities of the directors of our national animal health services helped the animal health system of the CEMA countries come closer to each other, and contributed to the prevention of the most dangerous epidemic diseases and to the proper management of export-import and transit shipments and of the observation of animal health care.

With the intention of paying particular attention to the prevention of foot and mouth disease, a separate coordination center has been established which possesses a common stock of vaccines, that can be used in large amounts in any emergency. On the basis of a specific, multilateral agreement concerning specialization in manufacturing, about 70 different medicines are being produced in the member countries. These are subjected to international control.

The permanent working group which deals with mechanization, has a vast and complex area of tasks. These include the complex mechanization of agricultural production, improvements in the efficient utilization of machinery, international machine supervisory work and manufacturing of the instruments and equipments and standardization of the rules needed for this work, planning of agreements concerning specialization and cooperation, development of an internationally coordinated machinery system and examination of the modern technology required for the in and out loading and transportation of goods.

During the last year alone technological standards have been worked out for more than 30 machines, equipments and instruments. The participants in this work evaluated the analytical tests of about 1700 machines and equipments, and exchanged the findings among themselves. They tabled proposals, in the framework of the agreement, for specialization, cooperation and development in the manufacturing of instruments and equipments which are used for the testing, repair and technical maintenance of machines. All this is complemented by the renewal of the used spare parts and the working of the methods, technologies, instruments and equipments serving for the diagnosis of the flaws.

Cooperation in the area of plant protection is particularly comprehensive. A conference on quarantine and plant protection of the CEMA countries, which meets every third year, surveys the problems of this area and designs the principal tasks. A separate coordination center works on improving the methods of protection, including almost all minute details of plant preservation. In the course of the examinations of various plant protecting agents, that has been going on for more than 10 years, about 400 products have been analyzed and one third of them were found fit for production.

Within the Standing Agricultural Committee of Cooperation there is a forestry section at work. The fast growth in the demand for timber and other forestry products, environmental considerations and the human health protecting functions of the woods made the dynamic development of cooperation necessary. The joint activities have been regulated by long-term cooperation programs based on the guiding principles. The most important tasks are the intensification of forest growth, mechanization, planting of fast growing tree species, production of materials for the propagation of woods, mapping of various prognostics concerning the demand for timber, plant protecting agents, manpower organization, etc. It is expected that in the coming years our countries will only be able to meet the expectations by an increase in the yield of our forests, by planning and introducing industrial cultivation methods, by an increased coordination of technological-scientific cooperation and by a faster practical application of theoretical findings.



## Research on the Basis of International Agreements

In addition to the economic cooperation accomplished by the Permanent Committee of Agricultural Cooperation, large-scale technological-scientific cooperation has been achieved since its inception. Cooperation based on simple coordination, that prevailed until 1970, has been largely replaced by research managed by coordination centers, which have been created by inter-bloc agreements. Currently the activities of the 10 coordination centers are embracing all important areas of agriculture, i.e. plant-improvement, problems of artificial fertilizers, biological aspects of animal husbandry, protection against and prevention of foot and mouth disease, mechanization, electrification and automation of agriculture, complex mechanization of forestry works, application of accounting machines and preparation of new plant protection agents and methods.

At present our technological-scientific cooperation involves 20 large areas of problems, covering more than 100 topics. Nearly 300 research institutes are working on the solution of these problems.

From among the research topics we may point out the studies concerning the impact of heterozygosis; the application of findings which could reduce the volume of hybridization research and time needed for it; the radiation treatment of seeds which increases the yield; the development of high protein grain species, with better resistance to diseases, drought and severe frost; developing cattle fetus transplantation that leads to the development of high quality cattle stock.

Also as a result of cooperation, recommendations have been drafted concerning prevention of damages that may arise from the employment of pesticides and the prognostication and signalization of plant damaging occurrences. Aside from improving plant protection with the help of chemicals, research is being pursued into new methods of prevention, for example by the employment of useful kind of insects, synthetic hormones, decoys and scaring devices.

With reference to the evaluation of the effectiveness of these research projects, we have to emphasize the importance of the provisional international collectives, which have been convened for the solution of individual problems, since this form of cooperation proved to be the most successful.

Another way to improve effectiveness has been the change in the methods of technological-scientific cooperation. During the last couple of years, a change has begun toward undertaking research on the basis of contracts, in the framework of the CEMA cooperation agreement.

The significance of applied research, as compared with fundamental research is still underrated in the member countries, and thus the practical application of the findings lags behind desirable standards. On the basis of the results obtained thus far and in view of the expectations from agriculture, we should emphasize the value of the kinds of genetic sources of plants and animals which have economically profitable qualities and biological properties, and in the future we must insist on the increased use of specific methods of improvement,

tissue culture and embryo culture in plant production. Also in animal husbandry we should increase the application of modern methods, as embryo transplantation, gene surgery and bio-technology. Particular attention should be paid to the various materials which regulate growth, to the new liquid fertilizers which are enriched with trace elements and to the newest plant protection agents.

Useful long term programs will continue to form the basis of our agricultural cooperation also in the future. These will include emphasis on specialization, cooperation in production, strengthening the technical-material basis, developing technological-scientific cooperation, increasing commercial shipments and stimulating food export to the member countries so as to greatly improve the food supply to these countries.

#### Hungary's Participation

In Hungary 180 sorts of plants have been subjected during 1983 to species analysis, and in this year 2 corn, 3 autumn-wheat, 1 sugar-beet and 1 sorghum breeds were adopted as standards on the basis of earlier tests. The species which were improved with the help of CEMA cooperation were planted in Hungary on more than 700,000 hectares crop area in 1983.

During the last 2 years approximately 40 sorts of wheat have been bred in the CEMA countries. Most of them belong to the category of intensive and hard wheats. So is, for example, also the Hungarian No 12 of Martonvasar.

The yearly volume of cereal-seed shipments exceeds 150,000 tons within the CEMA, from which Hungary's share, mostly corn, is about 45,000 tons. The member countries' trade in root-tuber crops exceeded 40,000 tons, including potato seeds, while that of the leguminous plants amounted to 15,000 tons. Further actions are needed to increase trade in super-early corn, alfalfa, various kinds of clovers and some sorts of grasses.

Hungary delivered last year 20 brood-boars, 20 breeder bulls of twofold utility and--beyond its commitments--10 bulls for slaughter in the framework of CEMA cooperation.

In the CEMA countries about 70 kinds of veterinary medicines are being manufactured on the basis of specialization, among them some Hungarian products, for example Sumetrolin, Sebenvet, Tetramisol, Loksuran, Nebenvet, etc. These products provided savings in convertible imports amounting to hundreds of millions of dollars to the member countries. After the extension of the validity of the agreement and the simultaneous broadening of its scope, the member countries proposed the specialized manufacturing of more than 160 products, from which about 20 are of Hungarian origin. The specialized production of veterinary medicaments is supervised by international testing. In 1983 out of the tested products three were Hungarian made.

Upon Hungarian initiative, a temporary research working group has been created which is to develop selection methods for improving the quality of pork.

During the ten years of our cooperation in solving the practical problems of animal husbandry, 17 recommendations have been drafted in 5 principal areas of topics. These proposals can form the basis for the definition of national standards, norms and other measures. The clinical analysis of the prosta-glandine product Enza-prost was done, with international cooperation in Hungary. It was ultimately recommended for application.

Jointly with GDR researchers Hungarian experts have worked out the light system of hog raising technology.

Within the joint CEMA research program concerning the development of micro-processor techniques, Hungary has undertaken the planning, manufacturing and programming of video-terminals. Further our experts are working on the solution of the economic analysis problems of large agricultural enterprises, using the Janus and Proper microcomputers and the Agrinfo prime recording system.

12312

CSO: 2500/141

HUNGARY

COLD DAMAGES VINEYARDS, UPS AGRICULTURE COSTS

Budapest MAGYAR NEMZET in Hungarian 25 Jan 85 p 1

[Article by Istvan L. Horvath: "Three Billions"]

[Text] Probably many people will remember this year's hard winter and the shivering weeks when the sun will be shining warm again. For we will have to foot the bills of winter, no matter whether they will arrive today or later on, during summer or fall. In various areas of agriculture we have to reconcile with the possibility that the impact of this freezing January will not vanish when weather becomes milder again.

The inclemency of cold has already caused damages in the dormant vineyards of Baranya and the Tokaj foothills. Yet in order that this year's crop should not turn out to be as poor as the present state of the vineyards seems to predict, careful pruning should be undertaken. This operation will however require more than routine work and a lot of manpower. And this may raise the costs. During recent weeks more an unanticipated amount of energy was needed to heat the buildings housing young animals. On the other hand, in order to keep certain animals outdoor or in half-open stables comfortable enough and to preserve their productive instincts, they had to be fed with more fodder and expensive forage. Thus the cost of animal husbandry and ultimately that of the production of milk, meat and eggs will grow. The producers of early vegetables under plastic shelter will have to burn much more oil, coal or wood--particularly if the freezing weather returns--than at any other time.

The increasing consumption of materials and energy is necessary. Yet these inevitable measures represent a handicap for our agricultural enterprises. For the rational use of industrial and other materials and energy and the reentrenchment in expenses have become nowadays one of the key factors of their lucrativity. We may even say that the thrifty and rational use of materials is of decisive importance for most farms. This is a consequence of the fact that in the last couple of years agricultural parity has become more unfavorable for farming; for example the prices of agricultural products have grown between 1979 and 1982 by merely 17 percent, whereas the prices of industrial products were increased by 36 percent. And this trend has barely changed in recent times. Last year production costs increased 3.6 times,



and in our industrializing agriculture the cost of materials amounts to 62 percent of the overall expenditures. Experts consider this wantonly excessive.

In other words, to earn decent profits and to stay afloat is possible nowadays--aside from a number of other things--only if materials are used wisely. However in agriculture, which is exposed to the caprices of weather, this is more difficult than in any other economic area. This is the lesson we should draw from the above mentioned winter experiences.

Most agricultural producers have promptly recognized the potentials of thriftiness in materials and, fully aware of their interests, they have insisted on rational savings. This effort has been successful. In the area of food production in 1982--this was the year the Council of Ministers adopted a program concerning the economic use of materials and the modernization of technologies--thriftiness in materials saved 2.2 billion forints, and in 1983 already 3-3.5 billion forints. We do not yet have figures concerning last year's savings, but according to the estimates we have managed to reach the 1983 level also in 1984.

The MEM [Ministry of Agriculture and Food Industry] worked out already in 1983 a program of action aimed at promoting savings of material and energy. A priority of this plan was the rational exploitation of soil, since according to the estimates, by the end of the plan period the yields of approximately 1.30 million hectares crop land could be significantly improved by a more rational exploitation of the soil and without increasing the production costs.

The energy consumption of the food producing sector decreased between 1978 and 1983 by 7 percent, partly as a result of the fact that from year to year an increasing number of farms have moved to store corn without drying it. With this method currently more than 800,000 tons are being stored. This resulted not only in savings of oil, but also in using less fodder for a value of about 300 million forints yearly. The use of agricultural waste and by-products for energy production has also made progress, although--according to a last year's survey of the KNEB [Central People's Control Committee]--the potentials in this area are far from being fully exploited. The same applies to the supply of nutritive materials and plant protection, although the spreading of integrated plant protection has already yielded savings of plant protecting agents for an estimated price of 500 million forints yearly. On the other hand the enlarging of the storage facilities prevented large stocks of artificial fertilizers for an estimated value of 263 million forints from being wasted.

However, just as in case of recycling of waste and secondary products, also in the thrifty distribution of plant protecting agents, the background industry and its activities are playing a decisive role. To be more exact, to a great extent it depends on whether or not the agricultural machine factories are manufacturing the kinds of modern equipment and machinery at reasonable prices that may help implement our program of savings. Unfortunately in this respect our domestic machine industry does not do very well and it still has a lot to make up.

The savings, which have been brought about in a great variety of areas, and which may be estimated at 3 billion forints, are noteworthy also because they were and still are hamstrung by numerous circumstances working against the plans of the agricultural producing cooperatives, state farms and food processing enterprises. Unfavorable weather conditions, for example the drought in 1983, required almost all of the farm and national savings to cover the investments in materials and energy.

12312

CSO: 2500/182

HUNGARY

OFFICIALS EXPLAIN PURPOSE OF PRICE INCREASES

Budapest FIGYELO in Hungarian No 4, 24 Jan 85 p 4

[Unsigned article: "Concerning the Price Increases"]

[Text] The 1985 economic plan counts on a 7-percent increase in consumers' prices. Of this, 0.5 percent is the postponed effect of last year's price increases, 3.5 percent is the expected effect of price increases for free price articles and 3 percent is the expected effect of central price increases. Within the latter, the price increase for press products at the beginning of the year will account for 0.2 percent and 2.5 percent will be the effect of the 21 January price increases. The remaining 0.2 percent represents a reserve.

Three responsible leaders of the National Materials and Price Office made statements to our paper about the current central price changes.

Kazmer Nemethy, chief of mining, energy and chemical industry directorate:

"An average increase of 23-24 percent in the consumers' price of fuels and household energy service is justified by the effort aimed at reducing the high price supports, the increase in producers' prices and incentive for more thrifty use of the restricted energy sources. By 1984 consumer price supports for fuels had increased to an average of 60 percent, about 13 billion forints. Even over the long run we do not want to completely eliminate this support, but it is absolutely necessary to reduce it.

"The goal with earlier price increases was always to encourage a change in the structure of energy use by consumers. We are not using a more significant differentiation in the magnitude of the present price increase because our goal is not any considerable change in the composition of energy consumption. At present we do not have any energy source from which we could satisfy the extra demand deriving from a possible shift.

"The price of solid fuels--coal, coke and briquets--and of central heating has been supported most of all; the magnitude of this has been over 200 percent.

The price of other fuels does not contain a significant subsidy; it was necessary to increase the price of these in order to adjust the price ratios to use value; for these the enterprise affected will make an accounting with the budget for the extra receipts.

"The increase in electric power fees is the same per kilowatt hour throughout the country, but this represents a higher percentage increase in the capital, because of the lower price, than the magnitude of the increase being realized in the provinces. With this method the Budapest and provincial fees will approach each other at least in their ratios.

"The chief reason for the price increase for propane-butane gas, or rather for the differing degree of the price increase by calendar period, is that production in recent times has not been able to satisfy the demand which has been increasing due to use for heating purposes. So in the interest of limiting use for this purpose the price increase will be 50 percent in the heating season--between 15 October and 15 April--and will be 9 percent outside the season."

Balint Fuzekas, deputy chief of the agriculture and foodstuffs directorate:

"Within foodstuffs the present changes will affect the price of milk and milk products most of all; the average increase is 28-29 percent. The price for this product group has not changed since the price measures of 23 July 1979, with the exception of some free price products making up only a few percent of total trade. In the meantime the purchasing prices have been raised several times, because of increasing production costs, and processing and trade costs have increased also. So by the end of 1984 an average price supplement of 72 percent was required; now this will be reduced to an average of 34 percent. We want to maintain price supports for milk and milk products over the long run, but we must reduce the magnitude of them. We calculate that the reduction in demand for some milk products expected as a result of the price increase will be only temporary.

"With the most recent, September 1983, increase in the consumers' price for sugar we created the situation which is the goal for basic foodstuffs--with certain exceptions--that the price should not contain either a turnover tax or a price support. We want to achieve this again now with the 16 percent price increase, which, in addition to ending the support which became necessary since, will provide cover for the increase this year in the purchasing price of sugar beets and for the increase in processing costs.

"To a large extent the price increases carried out in the area of preserving industry products also was made necessary by a reduction in the present consumers' price supports, or by ending them in the case of canned fruit and frozen fruit and vegetables, which even up to now had been supported only to a smaller degree--by 8 percent.

"The price changes are aimed at having the prices of canned and frozen products become proportional with the raw product representing the internal content, by



ending or at least significantly moderating the existing differences in supports --taking into consideration also the higher degree of processing.

"On the basis of the reasons outlined the price of preserved meats and meat products will increase by 9-10 percent, that of frozen meat and meat products, supported to a greater extent previously, will increase by 16-18 percent, while canned fruit and frozen foods and semifinished foods without meat will become more expensive by 11-12 percent.

"A role is played in the price increase for a number of preserving industry products by the increase in the price of fruit and vegetable primary materials and of packaging materials, as a result of which production costs have increased primarily for pickles and preserved goods based on peppers, tomatoes, cucumbers and green beans. The prices of these will increase by 7-10 percent.

"The price increases being realized for confectionary industry products--not affecting every product--are primarily the result of an increase in the import acquisition price for cocoa beans and vegetable oils (in which a role is played by both the foreign exchange purchasing price and the rise in the rate of exchange), but the more expensive packaging materials have also contributed."

Bela Berci, chief of the construction industry, transportation and services directorate:

"Even prior to this the postal services have not had state support. The last increase in fees took place in 1981 and since then costs have increased significantly. Up to now the Post Office has financed the deficit from the telephone service at the expense of telephone development.

"After the 1982 increase in long-distance transportation fees there had to be an increase in the price of local transportation sooner or later. Local transportation fees have not changed since 1966. State support in 1967 was 800 million forints, in 1984 it was 9 billion forints. The present price measures will cut only 1.2 billion forints from this.

"Support for cultural services continues to be a goal. We do not really want to reduce the sum used for this, but a price increase was needed to avoid an increase in this sum. The price of theater and motion picture performances last changed in 1979, the price of books changed in 1983. Only the books appearing after 21 January can raise the prices, with a differentiation depending on cultural policy goals. The movie theaters will realize the price increase in part by increasing the number of premier movies, which will be quite favorable for the public too.

8984  
CSO: 2500/181

HUNGARY

SEVERE INVESTMENT CUTBACKS PLAGUE AGRICULTURE

Budapest NEPSZABADSAG in Hungarian 29 Jan 85 p 1

[Text] The cutback in investment resources available to agriculture has been cause for complaint for years. While investments developed as planned last year, this was achievable only through exploitation of existing farm reserves. Agriculture received less government support and was forced to apply for more credit than planned; furthermore, its own resources were depleted. Last year 20 percent of financial cover for investments was in the form of credits; 13 percent came from government support, and the remainder was supplied by the farms, themselves.

Due largely to the increased burden of taxes on construction and the levy on investments, the impetus to build continued to decline last year. Farms erected no new stabling for livestock; they enlarged existing buildings instead. Of the sums spent on construction, 35 percent was devoted to investments related to ancillary activities.

This year's plans provide for investments no greater than those of last year. Consequently, the material-technical provisions of agriculture remain virtually unchanged. The plan stipulates that state support will decline further. Since the farms have no more funds than previously, they will have to resort to credits to implement their development plans. No construction boom is expected; instead, existing quarters for livestock will be enlarged or renovated.

Improvement of irrigation facilities is a priority goal, and the 40-70 percent state support farms can compete for to achieve this gives them suitable incentive. Expansion of irrigation is also promoted by the 20 percent state contribution to the purchase price of irrigation-system-related machinery and equipment which became available in January.

Because income from plant production is higher than from other branches of farm activity, TSZs and state farms will replace or renovate some of their machinery this year. The intensive grain program provides an added stimulus for this. Elimination of plantations which have outlived their prime bearing period continues to be of importance.

There will be no government investment in the food industry this year. Expansion of the cold storage facilities of meat processing plants planned, and the dairy industry will produce more milk having a longer shelf life. The program for constructing additional granaries and wine cellars will continue.

HUNGARY

ELECTRONICS PROGRAM CONCEPT APPROVED

Budapest SZAMITASTECHNIKA in Hungarian Jan 85 p 1

[Text] The council of ministers has approved the concept for the central development and organization program aimed at social and economic application of electronics. On the basis of the concept, worked out by the National Technical Development Committee, the Ministry of Industry, the Central Bureau of Statistics, the Hungarian Academy of Sciences and the Hungarian Post Office, conditions for expediting adoption of electronics will be established within the framework of a comprehensive economic development program beginning during the seventh 5-year plan. Under the terms of the concept, the council of ministers has called for the working out of a detailed program of measures to ensure efficient adoption of electronics and to establish conditions necessary for training and continuing education. The government has asked that a system of preferences be worked out which will increase enterprise interest in using the most advanced electronic techniques. It has also projected steps for acquisition of electronic systems and devices either from domestic sources or through imports.

The program is in harmony with the measures evolved for modernizing the economic guidance system and the regulators. It is to be implemented on the basis of enterprise independence. Furthermore, the government has called on the various industrial branches to work out subprograms relevant to the central program. These include improvements needed in the infrastructure and are aimed primarily at expanding the telecommunications network, the services of computerized information systems which operate within the budget and upgrading training and scientific research.

The electronization program will affect all sectors of the economy and a growing sector of society. Consequently the ministries and organizations of nationwide authority, in cooperation with their institutions and enterprises, are to develop subprograms at the portfolio level. These subprograms will stipulate important tasks: adoption of extensive use of electronic cash register systems in business networks, computer support for cash-flow procedures, expansion of traffic control systems, automation of office work, electronic support for engineering and modernization of health services.

CSO: 2500/218

POLAND

FINANCE MINISTER SEES NO RISE IN 1985 BUDGET DEFICIT

Warsaw RZECZPOSPOLITA in Polish 9 Jan 85 p 3

[Interview with Finance Minister Stanislaw Nieckarz: "Question for the Minister"]

[Text] In contrast to other plans, the state budget is always a somewhat abstract concept for us, both because of the large aggregate items recorded in it for income and expenditures, and because of the large amounts with which the budget operates. It seems to us that it is something completely different from the ordinary household budget.

Both are governed by the same laws, however. Both in the home and in the state, it is difficult to allocate more than one has. Purchasing a radio, television, or other durable goods requires saving one's money at the cost of limiting other purchases. It is the same thing with outlays for health, science, or environmental protection. Increasing some requires "cutting" others. Which ones is a matter of governmental and social priorities, difficult to establish and even more difficult to implement.

Both in the home and in the state, when there is a shortage of funds, it is necessary to think about increasing the sources of income. The household budget can be assisted by higher earnings, while the state budget can only be assisted by taxes, which are so unpopular. They are our contribution to the joint pool for division.

The long-standing dominance of outlays over receipts is obviously living beyond our means, and a straight road to indebtedness and financial imbalance and at the level of the state, to economic imbalance as well. As a consequence this creates the danger of inflation, with all of its known results in the sphere of prices.

What then is this common budget of ours like in 1985? What will the common purse be able to afford? On behalf of our readers, we addressed this question to Minister of Finance Stanislaw Nieckarz.

More detailed questions for the minister of finance, noted during 3 days on the telephone, are answered separately by department directors in the Ministry of Finance.



[Question] The budget in 1985 will be a deficit one, just as in 1984. The targets of the 3-year plan provided for balancing the budget in 1985. There is a deficit again in the state treasury, however... Why?

[Answer] The main reason is the high increase in budget outlays. To a considerable extent, it is a somewhat automatic one, resulting from the necessity of ensuring wages in the units of the budget sphere, for example, in the health service or in education, at a level close to wages in the production sphere. To a considerable degree these outlays are determined by law, and the government does not have a great deal of room to maneuver in this case. There is also an increase in expenditures for schools, hospitals, etc.

The only target for budget cuts could be subsidies. But even in the case of subsidies there is limited maneuvering room. These subsidies are primarily supplements for prices, and reducing them would be associated with a need to increase retail prices. Limiting the budget's supplementary payments for consumption--which is how the subsidies for the prices of goods and services should be interpreted--would require a growth in retail prices for products (obviously those financed through the budget) by an average of about 29 percent over the price increases stipulated in the 1985 plan.

[Question] If it is not possible to reduce expenditures, it is necessary to try to increase income. The way is known--higher taxes, which at once arouses opposition...

[Answer] The level of the budget's income is too low in relation to expenditures. Since the basic source of income is payments from socialized enterprises, they are what we should devote the most attention to. As a result of the still unsatisfactory efficiency of management, payments from the enterprises are not growing fast enough. At the same time--whether we like it or not, it is the truth--the enterprises as a group have larger financial resources available today than there are possibilities for a supply of material resources, for the purchase of which they could allocate their money.

[Question] It is said that raising income tax rates is a violation of the rules of the economic reform, ruins self-financing, and that it means fiscalism in the state's economic policy. It is being pointed out--and this was also confirmed by the telephone calls we received--that the present changes are shaking our trust in the permanence of the economic system and destabilizing the situation of the enterprises. They do not encourage long-term planning...

[Answer] Violating the principles of the economic reform, including the principles for the financial management of enterprises, is out of the question! After all, they are defined by law. Only economic parameters are subject to change, which is dictated by the financial situation in our country. It is to this situation that the government's financial policy has to be adapted.

At the same time, I would like to emphasize that the amount of the tax rate is not something stable, not subject to change, anywhere in the world. In fact, the opposite is true--it is a parameter determined by the state, and just like the interest on loans, it is subject to change, depending on the financial and economic situation. The enterprises have to adjust to these changes, sometimes from day to day.

And no one is talking about the state shaking the foundations of self-financing, or about hindering the possibility of development. In our case as well, increasing the income tax by 5 percent does not mean restricting the principle of the self-financing of enterprises. The principles of self-financing remain the same. As a rule, the decrease in financial capability is a nominal one, and in view of the limited scope of the supply of investment goods, the enterprises would not be able in any case to make full use efficiently of their funds for financing investments.

[Question] Doesn't that come to the same thing?

[Answer] Obviously not. The purpose of the present changes is not to take away the possibility of development, but rather to create an economic incentive for more efficient management in the enterprises. The economic parameters have to be so tight so that the enterprises will be forced to seek intensive development reserves, forced to reduce costs, and reduce their consumption of energy and raw and other materials. At present they are not adequately forced to do this.

It is understandable that changes aimed at compelling this do not arouse enthusiasm in the enterprises. For example, construction, as an industry, is doing well. It is in very good financial shape, only not much results from this for the economy and society. There is motivation, but where is the work? Where are the results?

Others also have similar attitudes. Obviously the situation of individual enterprises can be different. In general, however, for the country as a whole, the capability for the self-management of the enterprises does not result from increasing their production and lowering costs. So far, its source is the limitations on budgetary income. In 1979, the budget's real share in the profits of enterprises was 68 percent. In 1982 it was 61.1 percent. In 1984 it was even reduced to 50 percent (one should recall the reductions). Not one socialist country permits itself such a luxury. And not just them.

[Question] Won't the development of the enterprises and the economy suffer, however, from these changes in the income tax? This is the problem that was pointed out first by our readers. They stressed that in most of the factories, the production assets are aging rapidly. They said that this threatens the country's underdevelopment in the future, since today even the branches of the economy with the most income and prospects cannot afford development expansion because of a lack of funds. Won't the present changes limit these possibilities even further?

[Answer] At the same time, many enterprises think nothing of giving money from their own profits for the PFAZ [State Vocational Activation Fund], in an amount almost equal to the growth nationwide of the income tax burden as a result of the changes made in the tax rates.

Unfortunately, at many enterprises the amount of funds for development still depends on the amount of payments to the PFAZ. The latter is established first, and only the remainder of the profit is allocated for development. When there is a shortage of funds, it is argued that this is because of excessive taxes. That is on the wrong track.

Solving the problem of the aging of the enterprises' durable assets undoubtedly requires a general growth of outlays for investments. It can be stated that in our whole economy we invest too little. The next 5-year period, however, will have to be more pro-development.

Above all, however, we have to think about increasing our material resources, since that is what we lack above all. Just adding money will only lengthen the investment front, disperse our executive potential, and lead not only to economic illnesses but also to social ones, including corruption, among others.

Let us pose the question clearly, however. The problem of a more rapid development of the economy cannot be solved without general structural changes in the budget. In other words, without a limitation on expenditures from the budget in the sphere of consumption. Something for something. There is nothing for free. There is one budget!

[Question] Let us go back to the budget for 1985. The expenditures in it will grow faster than the income. Does this mean that we are in fact moving further away from a state of financial equilibrium?

[Answer] In spite of the projected deficit, which amounts to about 138 billion zlotys, in relative terms, in relation to the general expenditures from the budget, the proportion of the budget will not increase. One can thus state that in the future the situation will be imbalanced, but that it should not be worse than in 1984. Furthermore, it should be emphasized that a considerable portion of the deficit is associated with a one-time expenditure associated with redeeming the revalorization bonds issued in 1982 as part of the revalorization of savings deposits.

[Question] Will we be able to solve any of the social or economic problems in spite of the deficit being maintained in the state budget?

[Answer] The needs, both economic and social, continually exceed the funds that can be allocated to meet them. This is what constitutes the basic dilemma of economic and financial policy, and not just in Poland.

We are continually striving to make gradual improvements in individual areas within the limits of the existing possibilities. In 1985, for example, more funds will be allocated from the budget for the health service, but this does not at all mean that health care in our country will be radically improved.

[Question] It would be good, however, to be aware that we would be able to deal with some problem.

[Answer] That is not so simple. We will take a step forward in many areas, but this will certainly not satisfy all appetites. It is known that there will be general progress in living conditions, but to the extent permitted by the country's financial and economic capabilities.

9909

CSO: 2600/483



POLAND

# PERFORMANCE OF COAL, ENERGY INDUSTRIES FOR 1984 SUMMED UP

Warsaw ZYCIE WARSZAWY in Polish 31 Dec 84-1 Jan 85 pp 1, 2

[Article by (krk): "Miners and Power Engineer Do Their Job Well"]

[Text] One hundred ninety-one and a half million tons of anthracite; more than 50 million tons of lignite; almost 135 billion kilowatt-hours of electricity. The economy's requirements for fuels and electricity continue to grow. Statistics prove, however, that electricity and coal consumption is considerably higher than the growth of industrial production requires.

The statistics are obvious: we are again mismanaging our energy and fuel in a lavish manner. The system of incentives, which has been introduced and which was supposed to result in economization, is not passing the test completely.

In 1984, deep-pit miners mined 191.5 million tons of anthracite--half a million tons more than in 1983. It was just the beginning of December when the Czerwona Gwardia, Murcki, Boleslaw Smialy and Silesia mines reported that they had already mined as much coal as in 1983.

The average daily tonnage mined from Monday to Friday amounted to more than 651,000 tons. On Saturday the miners delivered approximately 600,000 tons of coal. Altogether, 31 million tons of the black fuel was mined on Saturdays. It was especially this additional mining which allowed us this year to export a record amount of 43 million tons, including 26 million tons sold to countries paying in dollars. Overall, exports for 1984 were greater, compared to 1983, by more than 7.5 million tons, something which brought the economy a considerable amount of currency.

The correct management of our coal deposits requires the execution of so-called preparatory work: the boring of new galleries and seams and access facilities to new walls of coal. Thanks to the productive efforts of coal miners, more than 1,500 kilometers of new passages were dug, 130 kilometers more than planned. After reconstruction, several mines were able to increase their mining capacity. Construction of the new Cieczott, Kaczyce, and Budryk mines and a second mine for the Lublin Coal Field continued. All of this, however, allows us to maintain only the current levels of coal mining, inasmuch as every year sees the closing of old mines where all the coal has been

mined. This loss of reserves is as great as the output of 1.5 mines of average size.

Especially good results were achieved by quarry miners of lignite. They mined 50.4 million tons of coal for mainly power plants; this was 4.4 million tons more than the plan called for. The record output for 1984 is greater than 1983's output by 7.8 million tons. All quarries produced more coal than was planned; the greatest amount in this growth was turned out by the Belchatow quarry.

On the other hand, a disquieting trend observed is the diminished interest in lignite by industry and individual buyers. All of a sudden they purchased only 1 million tons in 1984, even though the mines could have delivered much more. Several plants continue to hint that they will cease using lignite for their boilers and are ordering anthracite. Anthracite mines will not be able to meet the new demands.

The production of electricity is also continuing to increase. Power plants produced 134.8 million kilowatt-hours of electricity. Plans were surpassed by more than 5 percent; in relation to 1983, production increased by 7 percent. However, this increase in energy has not resulted in an increase in industrial production. Well-prepared power plants, instruments and equipment can cover totally the demands made by winter orders for energy, even though the requirements of recent weeks are the greatest in history and exceed 21,500 megawatts. Let us include that these requirements occur during the so-called peak energy hours; at night, these requirements decline enormously. Hence, we have an opportunity to export energy at night. In 1984, we sold 4.7 billion kilowatt-hours of energy, i.e., more than 2 billion more than in 1983.

Poland's available energy was increased by 2 stations of 360 megawatts each in the Belchatow power plant. This plant has produced 1,800 megawatts of power; after the Kozienice and Turoszow plants, it is the third largest producer. New lines and transformer stations have improved the system of supplying and dispatching energy. Recently, a new transformer station with a capacity of 400 kilowatts was made operational in Milosna near Warsaw. Several days ago, the country's first line with a 750 kilovolt capacity began operating. Current from the Khmel'nitskiy Nuclear Power Plant in the Soviet Union with flow to Poland, Czechoslovakia and Hungary along this line, which is now part of an international grid system.

The demand for natural gas is increasing. The economy consumed 8.8 billion cubic meters of highly methanated gas, much of which had to be imported. Unfortunately, we cannot satisfy all the orders for gas. An improvement in this situation will occur only after the Kobryn-Brzesc-Warsaw gas pipeline is made operational and further imports from the USSR are gained. Currently, 45 kilometers of this pipeline have been laid and preparatory work has been done on the next 85 kilometers of the line.

Several dozen branch specialized plants are working on the requirements of mining and energy. They have totally covered their requirements and have

also exported machines and equipment for 37.5 billion zlotys. The production of much modern equipment and many instruments has been achieved through cooperation with ministry scientific and research facilities. For instance, a giant wheeled-excavator for the mining of lignite, a KGS-150 mining combine for mining narrow seams of anthracite, new water-jets for breaking down coal, an energetistic steam boiler, the largest ever built in this country, with an output of 1,880 tons an hour, etc., have been built. Much of the new equipment and machinery will not only lead to the highest outputs, but should also facilitate the work of miners and power engineers.

12247

CSO: 2600/448

POLAND

## CLAIMS ON OVEREXTENDED CAPITAL INVESTMENT REBUTTED

Warsaw INWESTYCJE I BUDOWNICTWO in Polish No 7-8, Jul-Aug 84 pp 9-10

/Article by Mieczyslaw Lesz/

/Text/ Much has recently been said and written about capital investment. However, some of the opinions lack a more indepth analysis, which leads to false conclusions. In other words, as a result of a rather broad analysis, the conclusions drawn are not based on fact. I will mention several such problems.

### Overextension of the Investment Plan

The fiscal overextension of the capital investment plan has been generally evaluated in a negative manner, for which the enterprises are being blamed. Of course, in monetary terms the 1983 capital investment plan was overextended by 215 billion zlotys. Of this, the overextensions in the nonsocialized economy (agriculture and private housing construction) total approximately 40 billion zlotys. These capital investments, very much in demand elsewhere and entirely financed by the public in 1982, reached the level of the previous year and were therefore perhaps not excessive.<sup>1</sup>

The housing construction plan was overextended by 26 billion zlotys, yet some 20,000 housing units were turned over, and this should also be viewed in a positive manner. Therefore, a 150 billion zloty overextension remains.

This overextension will be explained in its entirety by price increases. Fulfillment of the 1983 plan, exclusive of housing construction, totaled 850 billion zlotys. It is difficult to evaluate the structure of 1983 construction costs because the appropriate data has not yet been published. Surely it is not any different from the 1982 structure.<sup>2</sup>

Material costs for construction totaled 53 percent of aggregate production in 1982, of which one-third was assembled machinery and equipment. According to the GUS /Main Statistical Office/, procurement prices (inclusive of machinery costs) rose by 15 percent in 1983. This equals  $850 \times 0.15 \times 0.53 = 67.6$  billion zlotys. Salaries constitute an important part of construction costs. Compensation, exclusive of ZUS /Social Security Agency/ contributions and wage taxes for 1982,<sup>3</sup> totaled 16 percent of aggregate production, and in 1983 together with the margin it will probably total approximately  $16 \times 1.66 = 26.6$  percent.



According to the GUS, 1983 salaries in the construction sector rose by 28 percent in comparison with the previous year. The difference is then  $850 \times 0.28 \times 0.266 = 63.3$  billion zlotys.

Consequently, as a result of inflation (and not overextension of the actual capital investment plan) monetary expenditures rose by  $67.6 + 63.3 = 131$  billion zlotys. Therefore, actual overextension of the capital investment plan has not reached 20 billion zlotys and is not 21 percent but only 2 percent of the plan, and within the margin of error.

#### Dissipation of Capital Investments

We often hear the opinion that capital investment waste is occurring, that too many investments are being initiated while others begun earlier are not completed. Criticism of this policy is very justified, but in this case the enterprises should not be blamed.

In 1983, new investments totaling 484 billion zlotys were initiated, of this amount only 165 billion was for industry. If investments for the coal and energy industries, totaling 89 billion zlotys, are subtracted this leaves 76 billion zlotys or 15.8 percent of the total investment undertaken in 1983 for the entire processing industry.

Dissipation of investments does occur but is particularly evident in the investments of budgetary units under the local plan. For example, in 1983 investments of 106 billion zlotys were undertaken (totaling one and one-half times the size of the entire processing industry), and January 1984 results can attest to the dissipation of these investments. In fact, in January 4 health care buildings were completed, 6 nursery schools were started and 3 were completed, while 77 schools were begun and 37 were completed. During the entire first quarter, 5 clinics with 59 consulting rooms were finished, while 11 clinics with 110 consulting rooms were begun. Nurseries for 1,255 children were completed, while nurseries for 2,030 children were started; 160 schools were completed in 13 buildings, and 262 schools in 17 buildings were started. And this is supposedly called dissipation.

#### Capital Investments Structure

One often hears that the investment structure has worsened, that construction and assembly work participation has increased excessively. This is true, yet the reason for this state of affairs is well beyond the range of decision of the enterprises (which according to some are to blame for the situation).

In 1980 production investments totaled 66.6 percent of the total investment, while nonproduction investments totaled 33.4 percent. In the production investment sector construction and assembly work totaled 36.7 percent, while the machinery and equipment share was 58.5 percent (the remaining 4.8 percent was for design work, geodesic work, etc.). The nonproduction investment share of construction and assembly work totaled 80.6 percent, while machinery and equipment was only 15.1 percent (the remaining 4.3 percent was the same as above).<sup>4</sup>

However, the scale of production investments fell the most in comparison with 1980. In 1982, production investments totaled 56.1 percent of aggregate investment, and were almost the same in 1983, whereas nonproduction investments represented 43.9 percent of total investment.

It is simple to calculate that if total 1980 investments for construction and assembly work equaled 51.36 percent, then in 1982 and 1983 they would equal 56.11 percent. The difference is due only to changes in the actual investment structure, particularly since increased nonproduction investments justify a five-point increase in construction and assembly work. Yet another reason influences the growth of the fiscal share of construction and assembly work upon total investment costs between the years 1980 and 1983. This concerns the fact that machinery prices during those years rose at a lower rate than prices for construction and assembly work. One can be convinced of this by comparing the data for those years in current and base prices.<sup>5</sup>

This comparison leads to the conclusion that the share of construction and assembly work is justified by a growth of five points in current prices. Together this equals a 10-point difference in construction and assembly work in terms of current prices, which can be accounted for through objective reasoning (a change in the actual structure and in the inflation index). On the other hand, the statistical difference in current prices between 1980 and 1983 totals 11 points. Therefore, we can discuss the worsening investment structure, but only by one point at the most, and this represents an insignificant amount and is within the error margin.

#### Investment Overhang

The term "investment overhang" has established itself legally. It denotes the assets accumulated by the enterprises for their development funds. The enterprises accumulate these assets because they cannot depend on receiving bank credits, which are almost exclusively allocated for the financing of investments left over from the 1970's. The goal of the enterprises is to accumulate funds which would then allow for short-term modernization and replacement of capital investments in order to avoid tying up funds and delaying construction. Consequently, this is a most expedient and appropriate strategy.

#### FOOTNOTES

1. GUS Operational Report, March 1984.
2. 1983 Statistical Yearbook, p 231.
3. GUS Operational Report, February 1984, p 22.
4. All data is from the 1983 Statistical Yearbook, p 157.
5. 1983 Statistical Yearbook, p 158.

12229

CSO: 2600/361

POLAND

## PARTICIPATION IN TEHRAN FAIR, TRADE WITH IRAN DISCUSSED

Warsaw RYNKI ZAGRANICZNE in Polish N 10. 22 Nov 84 p 8

[Article by Andrzej Maskalan: "Tehran for the 10th Time; Polish Foreign Trade"]

[Text] The 10th International Trade Fair in Tehran took place last September. Thirty-seven countries took part in this anniversary event (in 1983 there were 31, in 1982 22), yet another confirmation of the great interest in developing trade with Iran. The presence of all European socialist countries, as well as the PRC, Cuba and Nicaragua, must be especially emphasized. Among the capitalist countries the largest exhibits were presented by West Germany, Great Britain, Switzerland and Japan.

### The Fair and Trade

It is common knowledge that the war which has been going on for 5 years has seriously restricted export opportunities for Iranian crude oil and thus the country's ability to pay for imports. The escalation of warfare in the Persian Gulf since last spring has caused a further, serious drop in exports. As a result, this year Iran's purchases abroad fell drastically. However, one had the impression that nobody at the fair took this fact seriously into account. All the important trade partners expanded the scope and size of their exhibitions in comparison with last year.

With few exceptions, trade offers were fashioned to fit Iranian economic and import priorities. They included machinery and industrial equipment, raw and semiprocessed materials, chemicals, pharmaceuticals, and foodstuffs. The few instances of exhibits of consumer goods, which do not have a place on the current priority list, evoked the disapproval of the host, which was even expressed in official statements by prominent representatives of the Iranian administration. Some exhibitions devoted much space to construction machinery, transport equipment especially adapted to difficult terrain, machines and equipment for the machine and light industry, energy equipment, agricultural machines, communications equipment, and construction and technical services.

Doubtlessly, increased promotional activity on the Iranian market by many leading producers reflects their long-range trade strategy. Despite current difficulties, Iran continues to be a country with significant potential for

development, thanks to large oil reserves and other raw materials which, in some cases, have not yet been mined, as well as considerable development of some branches of industry, a sizeable domestic market, and a relatively large, well-qualified work force.

The normalization and stabilization of the external and internal situation of the country must lead to the strengthening of these factors for development, and thus to the growth of demand for needed goods which are not available domestically in sufficient quantities. Demand for imports will be enhanced by the need to rebuild the destruction and to resume frozen construction projects.

In this light, the drive to take up even a modest position on the Iranian market now is quite understandable. In the future, when the market expands, the absent will not count. Therefore, even some firms from countries which do not maintain relations with Iran look for means to preserve their presence in Iran, using middlemen or their own subsidiaries in other countries for that purpose. Foreign exhibitors are not deterred by serious visa restrictions or the need to observe the strict principles of Islamic morality.

The Iranian exhibit had a somewhat different character; alongside the genuine trade offerings there were also propaganda elements. They were reflected in the presence of prototypes and specimen, as well as goods produced by numerous recently created social, cooperative, and communal organizations. Substantial space was also occupied by Iranian propaganda organizations.

#### Polish Promotional Activities

Compared with last year, the Polish participation in the fair was much larger. With respect to exhibition space (1,470 square meters), it was the fourth largest national exhibition. In the pavilion and on the open grounds (160 m<sup>2</sup>) there were 26 Polish enterprises, including 8 which received foreign trade licenses in the last 2 years.

Metalexport, Metalexport-Vis, and Rafamet showed lathes and other technological instruments and equipment. Elektrim showed equipment for the energy and telecommunications industry; Labimex and Metronex showed control and measuring devices, elements of industrial automatics, and office equipment. Impexmetal, Varimex, Unitra and Universal offered a wide choice of investment and consumer materials and products of the metal and electrotechnical industry. Complete factories and individual pieces for various branches of industry were shown by Polimex-Cekop, Kopex, Centrozap, Fampa and Befama. Pol-Mot, Pezetel and Kolmex showed transportation equipment and engines; Bumar showed construction machines, and Navimor fishing boats and shipyard equipment. Enterprises offering general and specialized construction services such as Budimex, Instalexport, Mostostalexport, and Naftobudowa were amply represented, and, among those mentioned before, Polimex-Cekop, Elektrim, Kopex and Centrozap. Geokart and Wadeco offered geodesic, cartographic, project and consulting services. Also, other enterprises which did not participate in the fair used this opportunity for promotion: Paged and Stalexport.



The preparation and technical realization of an exhibition that was three times larger than the one in 1983 would have been very difficult without the good cooperation of the Iranian Center for the Promotion of Exports and other cooperating enterprises. It is worth mentioning that the participation of the foreign trade attache in Tehran was very active. As a result the Polish exhibition was located in a separate pavilion, centrally located in relation to the entrance to the fair grounds. Saturation of the exhibit with attractive products, especially lathes by Metalexport, shown in operation, had the result that the Polish pavilion was visited by most of the 2 million people who came to the fair during its 12 days. The enormous influx of visitors caused at times some difficulties and even danger to the stability of the casing. Such moments also occurred in other pavilions--in some the construction casings were damaged by the pressing crowds. As a result some expositions had to be closed for a long while. This unusual factor needs to be taken into account in planning and making our future exhibitions.

The peak moment of action came during the Polish Day. The ceremony of raising the state flags on the central square on the fair grounds was attended, on the Iranian side, by the director general of the Trade Ministry, Mr Falahi, representatives of various Iranian ministries and enterprises, and the diplomatic corps. This event was useful in view of the local custom and the opportunity to establish contacts with potential Iranian buyers. Active acquisition moves by Polish enterprises outside the fair, in the state administration and economic offices as well as trade and industrial enterprises, served the same purpose.

Currently, personal contacts with the buyers are essential. As a result of numerous reorganizations and personnel changes in the administration, there was a far-reaching turnover of people responsible for contacts with our enterprises. Since among Polish exhibitors there was a large group of enterprises which had a few years' break in their presence on the Iranian market, or are establishing their first contacts only now, personal experiences and practical knowledge of this market are priceless for them. Outside the time of the fair, gaining such knowledge is very difficult because of the far-reaching visa restrictions.

Polish-Iranian trade, calculated on clearing principles, reached 100 million dollars on each side last year. The rapid worsening of the Iranian financial situation following the escalation of war in the Persian Gulf last spring could not but have an impact on the size of Polish exports, which fell significantly. Additional difficulties were caused by numerous reorganizations of the Iranian administration, resulting in newly created organizations and offices which took over the contract obligations of their predecessors. This caused delays in Polish exports.

Practically all Polish exhibitors pointed to great interest of Iranian clients in their products and services. Pro-forma orders worth several million dollars were submitted. However, effective sales will depend on the policy of issuing import licenses, which will be determined primarily by the size of income from oil exports.

## Prospects

In assessing the 10th International Trade Fair in Tehran in view of last year's experience and the present trade situation, it must be said that the plan to increase Polish promotional activity on the Iranian market was wholly correct. Iranian authorities treat the fair as a prestige propaganda and trade event, and participation in the fair is taken as indirect evidence of the attitude toward Iran and its authorities.

The fair also presents an opportunity for Polish trade specialists to become better acquainted with the Iranian market and its complexity, and to update their knowledge about the potential and actual import demand in Iran. An important and, for many years, unsolved problem concerns Iranian exports of non-oil products. Finding practical solutions in this realm would permit the raising of the Polish-Iranian trade onto a qualitatively new level.

It follows from these observations that the Polish exhibition at the next fair in 1985 should be similar to this one in order to keep up with the leaders among the foreign exhibitors. On the basis of preliminary declarations, it is known that about 30 Polish enterprises are interested in participating in the event next year. The experience gained from organizing this year's participation should permit better preparation of our exhibit in the next year, and the creation of technical conditions for more effective promotional activity.

The world race of industrial powers for Iranian oil continues. We have every reason to secure a relatively good position in this race.

12503

CSO: 2600/350

POLAND

# METEOROLOGICAL SPECIALIST DISCUSSES WATER SHORTAGE

Warsaw CHLOPSKA DROGA in Polish No 51, 16 Dec 84 p 3

/Interview with Dr Maciej Sadowski, director of the Bureau of Agrometeorological Prognoses in the Institute of Meteorology and Water Economy, by Jadwiga Wasowska; date and place not specified/

/Text/ /Question/ We estimate that one village in five in our country has a water shortage. The deficit is caused not so much by soil drought, but rather by the consequences of a hydrologic drought and the visible drop in the level of ground water. Does the bureau you direct still forecast cloudless skies?

/Answer/ The situation indicates that we can expect a winter without much snow. That is at least what I think. Together with the shortage of rain this past fall, the prognosis for next year is not good. We must remember that a successful harvest next year is determined by the level of rain in the fall. We did not have much rainfall in October or November. We had an early frost with no snow, and this portends badly for the next harvest.

/Question/ We shall try to record your prognosis....

/Answer/ We make a monthly prognosis. There are, however, certain indices showing that we shall have nice weather, a lot of sunshine, chilly weather but not much snowfall. This is dangerous for the winter crops harvested next year. We probably will have to count on some crop damage from the frost.

For several years now, we have had in Poland a general lack of rainfall, which in and of itself is not that bad. However, what is really tragic is the complete lack of concern for water conservation. This is the real danger.

In many regions of Poland there is an almost total lack of water in the farm wells. But this situation has not resulted from a special geological formation or from hydrological conditions, but rather from exploitation of the ground-water, especially in the mining areas. For example, a catastrophe is threatening in Belchatow. Eight-thousand hectares of farm land have been drained of water. A genuine Sahara could form in the center of Poland.

This is a drastic situation that can be resolved only through the construction of a water-supply system for the farms as well as through other technical activities.

/Question/ How much has the groundwater been reduced and how frequently have the uniformly dry summers been repeated, like the last 3 years?

/Answer/ The groundwater level always fluctuates. It has been very low in the summer (1.5-2 meters below average) for many years. It has increased because of rainfall in July and September. At present, low levels of groundwater are prevalent in the southwestern, central and eastern provinces. I have analyzed the droughts in Poland. they have one trait. They occur usually in groups for a few years of smaller or greater intensity and in different regions of the country at a frequency of 6-8 years. I have also analyzed the occurrence of drought in our climate during the past 1,000 years. It appears drought comes on a historical scale every 11-12 years. One thing is quite sure. The frequency of drought occurring in the 20th century has never occurred in the entire millenium. But this is tied to something else. The 20th century has been the warmest century in the northern hemisphere during the past millenium, especially the first half. I think the frequency of droughts has been caused by increasing temperatures in this period, as we are observing a decline in their frequency as compared to the 1930's and 1940's in Poland. However, because our water economy is not properly managed, these droughts become more painful.

/Question/ As for example in Great Poland or Kujawy?

/Answer/ This is a separate problem--systematically lowering the level of groundwater as a result of the water economy practiced during the past 100 years. The biological balance in the region has been disrupted. Simply stated, the forests have been cut down and the swamps near Notec have been drained; these are needed to maintain the water balance. A critical situation can be found here, especially in years of low rainfall. On the other hand, the regions of Great Poland and Kujawy can experience the greatest number of summer thunderstorms. But the water irretrievably slips away, as nothing or no one can retain it. The area is taking on the character of a steppe, which is the first step to a desert. The threat of drought exists generally in our country. In the meantime, we do not have the facilities to store the water we have.

/Question/ Lately, rainfall in the summer and snowfall in the winter have been rare. What is the cause of this meager precipitation?

/Answer/ The cause of this meager precipitation is a so-called blockade. The blockade is formed when a large center of high pressure is formed to block the flow of moist air from the Atlantic Ocean. This air cannot get through to us because it is blocked by a heavy mass of dry continental air.

/Question/ Why is this blockade formed?

/Answer/ We can only hypothesize. I think the cause of this situation is a thermal condition in the Atlantic Ocean. It appears that the ocean, like any other center, has its own internal thermal system, and the warmth created is delivered to the North Atlantic. We like to say that the Atlantic is the largest "thermal chimney" among the oceans. The Atlantic through ocean currents collects the warmth from all of the oceans and transports it to the north.



For example, the Gulf Stream carries warm tropical water to the far reaches of the north. It also depends on the air currents passing overhead, which determines if the moist air from the Atlantic is shifted to the east or not.

[Question] Why does the Atlantic sometimes have more warmth and sometimes less?

[Answer] As yet, nobody can give a sufficient answer, but intensive study is under way. I am convinced that the main source of warmth for us and the main reason for changing weather is the Atlantic. If there is a hot mass of air above the Atlantic, then it will have more energy and come to us. But if the air is not that warm, then it cannot get to us. This is one aspect.

The second aspect is the influence of this warmth on the Arctic zone. If there is less warm air, then the area covered by cold Arctic air becomes greater as the air moves into Europe. The cold, heavy air forms a blockade. The lack of warm air makes it impossible for warm, moist air to move into Europe from the ocean.

[Question] Our country is in the continental climatic zone, but the weather during the last few years has nothing in common with this zone. It has been characterized by extremes--from large floods to tropical drought. Don't you think the climate has begun to deteriorate?

[Answer] Our climate has always been characterized by both temperature and precipitation extremes. This is the continental climatic zone of the northern hemisphere. Since the end of the 1960's we have seen these extreme phenomena. Snow has fallen in the Sahara and ice has melted at the North Pole in the middle of winter. The Sahel has had its second catastrophic drought in this decade. These extremes are characteristic of the last 15 years. This is the situation in the north hemisphere. If there is not a flood in China, then there is drought in the Soviet Union and the United States.

The northern hemisphere is an area of extreme anomalies. But in my view this is not abnormal for our climate. We have to be prepared for this. We have become accustomed to planning our economy or any other activity in a medial way. But in our climatic conditions we cannot plan in this way, as extreme conditions can lead to the risk of high losses. But it is not always the fault of the climate; we must learn to adapt ourselves to it.

[Question] I am afraid that this interpretation will not suffice for our economic advisors.

[Answer] Maybe, but the realities are as they are.

[Question] Exactly. Meanwhile, the mining industry is growing and urbanization is expanding. What is the danger here?

[Answer] In the first place, this urbanization and industrialization are taking place without consideration for the cost in the future. We build plants and cities without considering the fact that people will live there in the future. We cannot at this time use the lowest groundwater levels (below 200 meters).

which are the only reserves for future generations. And incidents like these occur today too often. Of course, we won't feel the effects now, but in 50-100 years it could be a problem for the whole country.

I understand that urbanization has its own rules, but it should also develop a certain system of protection to minimize the losses. A large city has a big influence on the climate in two ways. First, the city is a large reservoir of warmth making for the development of violent thunderstorms. Unfortunately, nobody is keeping the water, so we lose it. For example, in the United States some cities have built special reservoirs to gather the water from the violent thunderstorms.

The thermal problem is similar. The warmth generated by the urban areas in some ways equals the energy from the sun. This much warmth has an effect on the environment.

/Question/ Can we avoid this?

/Answer/ I think we should at least think about this. We can avoid it through better thermal isolation of buildings and higher efficiency of energy equipment.

/Question/ We started to talk about the climate, but it seems we are talking now about economic and technical issues.

/Answer/ Yes, this is not only the mark of modern climatology but also of natural science. This cannot be separated from life.

I now would like to discuss the issue of groundwater, which has been exploited without control. It is not enough that we are using water we should not use, but we are polluting it with sewage. The rivers and the groundwater are polluted. The only really clean water is in very deep reservoirs. But I repeat that we shouldn't take that water. And a complete misunderstanding is when industry takes that water for production. This is such a waste, as this the best water that can exist for people.

/Question/ There has not yet been a declaration of drought emergency, but the situation is serious. What actions are being taken?

/Answer/ Fighting a drought is a multifarious activity, but we don't know that much about the drought. And we are not in a position to take advantage of that which we do know. For example, land reclamation must also include irrigation. We have to give some thought as to whether land reclamation makes sense. We'll have more land, but the losses to the water environment can be irreversible. For example, by reclaiming the Wiza, we could lower the groundwater level and cause a drought. And please remember also that reclaimed swampland is not resistant to drought and can become a desert very easily. This is why I call for better use of the soil and use of proper techniques of field-crop production.

In the fall of this year, one could see the enormous clouds of dust behind the tractor plows. This is a drought. Wind erosion also is a factor here. I

don't know if one can plow in these conditions. During the 1930's on the Great Plains of the United States, the farmers plowed the fields using agrotechnology relevant to a wet climate. The result was the Dust Bowl. I believe we don't draw enough conclusions from this experience. And there are plough systems existing in countries of the dry or semidry zones, which do not cause erosion. They must not plow the stubble fields or cut deep furrows into the soil. Has anyone in our country even thought of this?

[Question] Which direction of changes in the climate can you foresee in the future?

[Answer] We do not have a practical way of forecasting climatic changes. We develop a scenario of the climate based upon mathematical modeling techniques and historical data on the existing climate in an area.

These mathematical models do not paint an optimistic picture for the future. This means that man's destructive activity will play the main role in the formation of the world's climate. This includes generated warmth from released carbon dioxide into the atmosphere. CO<sub>2</sub> absorbs warmth and does not allow for evaporation. As a result, the atmosphere is warmed up in a scale that is unfavorable to the world. This increases the process of desertization. It is estimated that the largest warmup will be in the polar zones, which will reduce the temperature variations between the polar zones and the equator. And this contrast causes all air movement and circulation. If the circulation is diminished, then that means only one thing: lack of rainfall and moisture causing desertization to move north. And the primary danger with this is that more and more land will be lost to agriculture. At present, the desertization is going south to Africa, but it will shift later and move north.

The other problem is the increasing level of the ocean by approximately 10 meters as a result of melting ice. The balance between the north and the south will be disturbed. Several years ago, Soviet climatologists warned that at the beginning of the 21st century plants from a semidry and dry climate would have to be introduced into the European portion of the USSR.

[Question] This sounds like the apocalypse. Are there already symptoms of such a danger?

[Answer] At this time, there is only the 100-percent increase in the amount of CO<sub>2</sub> since the 1890's. We cannot look upon this fact without criticism.

[Interviewer] Thank you for the discussion.

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POLAND

#### BRIEFS

SHIPPING LINE SETS RECORD--The ships of the Polish Shipping Lines transported 5.6 million tons of cargo in 1984, including 1.9 million tons in containers. The shipping line from Gdynia never transported such amounts in its 34-year history. In relation to 1983, haulage generally increased by 7.3 percent, and cargos by 35 percent, even though there were fewer ships. The Polish Shipping Lines currently has a total carrying capacity of 1,072,000 tons, while this figure was 1,217,000 tons only 2 years ago. Other basic economic indicators also showed that the gains of our shipping lines in 1984 were better than 1983 and more profitable for the enterprise than planned. [Text] [Warsaw RZECZPOSPOLITA in Polish 3 Jan 85 p 1] 12247

ENERGY COOPERATION WITH ROMANIA, HUNGARY--Poland is a top producer of mining and power engineering equipment within CEMA. More often than not, mechanized casings, combines and electronic mining equipment are being utilized in the mines of Romania and Hungary. Experiences are also being shared in the area of new technologies for the safe mining of coal in difficult mining and geological conditions. Additionally, we have traditionally delivered coal to these countries. Our experience in power engineering has also been utilized by our Romanian and Hungarian partners, e.g., in the repair or rebuilding of power plants. On the other hand, we import equipment from Romania for deep drilling when searching for gas and petroleum, and hydraulic equipment from Hungary. Plans to enhance and expand the cooperation in mining and power engineering between Poland on the one hand and Romania and Hungary on the other were discussed on 4 January during a meeting of the minister of mining and power engineering, Div Gen Czeslaw Piotrowski, with the ambassadors of the Socialist Republic of Romania, Ion Pesu, and the Hungarian People's Republic, Gyorgy Biczo. [Text] [Warsaw RZECZPOSPOLITA in Polish 5-6 Jan 85 pp 1, 2] 12247

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